

Curriculum Vitae

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## Background

### a. Education

**Ph.D.** (Computer Science) 1992, University of Waterloo, Waterloo, ON, Canada.  
“Wang Tilings and Distributed Orientation on Anonymous Torus Networks.”  
Advisors: Dr. Charles J. Colbourn and Dr. Jan K. Pachl.

**M.Sc.** (Computer Science) 1984, University of British Columbia, Vancouver, B.C., Canada.  
“A Functional Programming Language with Context Free Grammars as Data Types.”  
Advisors: Dr. Akira Kanda and Dr. Harvey Abramson.

**B.Sc.** (Computer Science) 1983, University of Alberta, Edmonton, AB, Canada.

### b. Academic Experience

**Arizona State University**, Department of Computer Science and Engineering,  
(Tenure Track) Associate Professor. Since 2006.

**Arizona State University**, Department of Computer Science and Engineering,  
(Tenure Track) Assistant Professor. 2002–2006.

**University of Texas at Dallas**, Department of Computer Science,  
(Tenure Track) Assistant Professor. 1999–2002.

**University of Texas at Dallas**, Department of Computer Science,  
Senior Lecturer. 1994–1999.

**University of Manitoba (Canada)**, Department of Computer Science,  
Visiting Assistant Professor. 1990–1994. *This position was “limited term” (i.e., not tenure-track, and without possibility of reappointment); there was no research expectation.*

### c. Industrial Experience

N/A

### d. Principal Areas of Teaching and Research

#### Teaching:

Computer networks,  
distributed systems,  
operating systems,  
data structures and algorithms.

#### Research:

Mobile ad hoc and sensor networks.

### e. Honor Societies

N/A

## Publications

Names in bold indicate graduate students.

### a. Refereed Archival Journal Papers

1. **D. W. McClary**, V. R. Syrotiuk, and V. Lecuire, “Adaptive Audio Streaming in Mobile Ad Hoc Networks using Neural Networks,” to appear in *Ad Hoc Networks* (accepted April 2007).  
<http://dx.doi.org/10.1016/j.adhoc.2007.04.005>
2. V. R. Syrotiuk, C. J. Colbourn, and **S. Yellamraju**, “Rateless Forward Error Correction for Topology-Transparent Scheduling,” to appear in *IEEE/ACM Transactions on Networking* (accepted January 2007).
3. P. J. Dukes, C. J. Colbourn, and V. R. Syrotiuk, “Directed Complete Bipartite Graph Decompositions: Indirect Constructions,” to appear in *Discrete Mathematics* (accepted September 2005).  
<http://dx.doi.org/10.1016/j.disc.2006.11.050>
4. C. J. Colbourn, **M. Cui**, E. L. Lloyd, and V. R. Syrotiuk, “A Carrier Sense Multiple Access Protocol with Power Backoff (CSMA/PB),” *Ad Hoc Networks* 5 (8) : 1233–1250, November 2007.
5. V. R. Syrotiuk, **Z. Zhang**, and C. J. Colbourn, “Transport Schemes for Topology-Transparent Scheduling,” *Journal of Combinatorial Optimization* 14 (2-3) : 229–248, October 2007.
6. P. J. Dukes, V. R. Syrotiuk, and C. J. Colbourn, “Ternary Schedules for Energy-Limited Sensor Networks,” *IEEE Transactions on Information Theory* 53 (8) : 2791–2798, August 2007.
7. **J. W. Lee**, Y.-H. Lee, and V. R. Syrotiuk, “The Performance of a Watchdog Protocol for Wireless Network Security,” *International Journal of Wireless and Mobile Computing* 2(1) : 28–36, 2007.
8. **K. K. Vadde**, V. R. Syrotiuk, and D. C. Montgomery, “Optimizing Protocol Interaction using Response Surface Methodology,” *IEEE Transactions on Mobile Computing* 5(6) : 627–639, June 2006.
9. W. Chu, C. J. Colbourn, and V. R. Syrotiuk, “The Effects of Synchronization on Topology-Transparent Scheduling,” *Wireless Networks* 12(6) : 681–690, November 2006.
10. W. Chu, C. J. Colbourn, and V. R. Syrotiuk, “Slot Synchronized Topology-Transparent Scheduling for Sensor Networks,” *Computer Communications* 29(4) : 421–428, February 2006.
11. C. J. Colbourn and V. R. Syrotiuk, “Cover-Free Families and Topology-Transparency,” *Bayreuther Mathematische Schriften* (in English) 73 : 86–106, 2005.
12. **K. K. Vadde** and V. R. Syrotiuk, “Quantifying Factors Impacting Quality-of-Service in Mobile Ad Hoc Networks,” *Simulation: Transactions of the Society for Modeling and Simulation International* 81(8) : 547–560, August 2005.
13. V. R. Syrotiuk, **M. Cui**, **S. Ramkumar**, and C. J. Colbourn, “Dynamic Spectrum Utilization in Ad Hoc Networks,” *Computer Networks* 46(5) : 665–678, December 2004.
14. **K. K. Vadde** and V. R. Syrotiuk, “Factor Interaction on Service Delivery in Mobile Ad Hoc Networks,” *IEEE Journal on Selected Areas in Communications* 22(7) : 1335–1346, September 2004.
15. C. J. Colbourn, A. C. H. Ling, and V. R. Syrotiuk, “Cover-Free Families and Topology-Transparent Scheduling for MANETs,” *Designs, Codes, and Cryptography* 32(1-3) : 65–96, May–July 2004.
16. A. Faragó and V. R. Syrotiuk. “MERIT: A Scalable Approach for Protocol Assessment,” *Mobile Networks and Applications* 8(5) : 567–577, 2003.

17. **A. D. Myers, G. V. Záruba**, and V. R. Syrotiuk. “An Adaptive Generalized Transmission Protocol for Mobile Ad Hoc Networks,” *Mobile Networks and Applications* 7(6) : 493–502, December 2002.
18. S. Basagni, I. Chlamtac, and V. R. Syrotiuk. “Location Aware, Dependable Multicast for Mobile Ad Hoc Networks,” *Computer Networks* 36(5-6) : 659–670, 2001.
19. A. Faragó, **A. D. Myers**, V. R. Syrotiuk, and **G. V. Záruba**. “Meta-MAC Protocols: Automatic Combination of MAC Protocols to Optimize Performance for Unknown Conditions,” *IEEE Journal on Selected Areas in Communications* 18(9) : 1670–1681, September 2000.
20. V. R. Syrotiuk, C. J. Colbourn, and J. K. Pachl. “Wang Tilings and Distributed Verification on Anonymous Torus Networks,” *Theory of Computing Systems* 30(2) : 145–163, January 1997.

### Summary of Student Involvement

In alphabetical order:

**Minghao Cui** is currently my Ph.D. student (since Fall 2004).

**Jin Wook Lee** was a Ph.D. student in Computer Science and Engineering at Arizona State University.

**Daniel W. McClary** is currently my Ph.D. student (since Fall 2005).

**Andrew D. Myers** was my Ph.D. student (graduated Spring 2002).

**Suresh Ramkumar** was my M.S. student (graduated Fall 2003).

**Kiran K. Vadde** was my Ph.D. student (graduated Fall 2005).

**Sruthi Yellamraju** was my M.S. student (graduated Spring 2004).

**Gergely V. Záruba** was a Ph.D. student in Electrical Engineering at the University of Texas at Dallas.

**Zhiqiang Zhang** was a M.S. student in Computer Science and Engineering at Arizona State University.

## Publications (continued)

Names in bold indicate graduate students.

### b. National Conference Proceedings Refereed Papers

The following list also includes refereed papers in *international* conference proceedings.

1. **M. Cui** and V. R. Syrotiuk, “Fair Variable Transmission Power Control,” to appear in *Proceedings of the 50<sup>th</sup> Global Communications Conference (Globecom’07)*, Ad-hoc and Sensor Networking Symposium, Washington, D.C., U.S.A., November 26–30, 2007.
2. **Y. Moon** and V. R. Syrotiuk, “A Cooperative CDMA-based Multi-channel MAC Protocol for Mobile Ad Hoc Networks,” to appear in *Proceedings of the 6<sup>th</sup> International Conference on Ad Hoc Networks and Wireless (Ad Hoc Now’07)*, Morelia, Mexico, September 24–26, 2007.
3. **K. Shaukat** and V. R. Syrotiuk, “Statistical Monitoring to Control a Proactive Routing Protocol,” to appear in *Proceedings of the 6<sup>th</sup> International Conference on Ad Hoc Networks and Wireless (AdHoc Now’07)*, Morelia, Mexico, September 24–26, 2007.
4. C. J. Colbourn, P. J. Dukes, and V. R. Syrotiuk, “Generalized Cover-Free Families for Topology-Transparent Channel Assignment,” to appear in *Proceedings of the 10<sup>th</sup> IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM’07)*, Victoria, B.C., Canada, August 22–24, 2007.
5. **D. W. McClary**, V. R. Syrotiuk, and M. Kulahci, “Meta-Regression: A Framework for Robust Reactive Optimization,” to appear in *Proceedings of the 1<sup>st</sup> IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO’07)*, Boston, Massachusetts, U.S.A., July 9–11, 2007, pp. 375–378.
6. Y. Chen, E. Fleury, and V. R. Syrotiuk, “Topology-Transparent Duty Cycling for Wireless Sensor Networks,” *Proceedings of the 21<sup>st</sup> IEEE International Parallel and Distributed Processing Symposium (IPDPS’07)*, Long Beach, California, U.S.A., March 26–30, 2007, pp. 1–10.
7. V. R. Syrotiuk, **K. Shaukat**, **Y. J. Kwon**, M. Kraetzl, and J. Arnold, “Application of a Network Dynamics Analysis Tool to Mobile Ad Hoc Networks,” *Proceedings of the 9<sup>th</sup> ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM’06)*, Torremolinos, Spain, October 2–6, 2006, pp. 36–43.
8. C. J. Colbourn, **K. N. Johnson**, V. R. Syrotiuk, M. Kraetzl, and K.-P. Hui, “System Lifetime: A Global Problem and Local Solutions,” *Proceedings of the 5<sup>th</sup> IFIP Annual Mediterranean Ad Hoc Networking Workshop (MedHocNet’06)*, Lipari, Italy, June 14–17, 2006, pp. 208–215.
9. C. J. Colbourn, **M. Cui**, V. R. Syrotiuk, and E. L. Lloyd, “A Carrier Sense Multiple Access Protocol with Power Backoff (CSMA/PB),” *Proceedings of the 5<sup>th</sup> IFIP Annual Mediterranean Ad Hoc Networking Workshop (MedHocNet’06)*, Lipari, Italy, June 14–17, 2006, pp. 76–83.
10. **M. P. McGarry**, M. Reisslein, and V. R. Syrotiuk, “Access Control in Heterogeneous Multichannel Wireless Networks,” *Proceedings of the 1<sup>st</sup> IEEE International Conference on Integrated Internet Ad hoc and Sensor Networks (Intersense’06)*, Nice, France, May 29–31, 2006.
11. P. J. Dukes, C. J. Colbourn, and V. R. Syrotiuk, “Topology-Transparent Schedules for Energy Limited Ad hoc Networks,” *Proceedings of the IEEE International Workshop on Foundations and Algorithms for Wireless Networking (FAWN’06)*, Pisa, Italy, March 13, 2006, pp. 85–90.

12. **K. K. Vadde**, V. R. Syrotiuk, and M. Kulahci, "Towards Understanding Factor Dynamics," *Proceedings of the 2<sup>nd</sup> IEEE International Workshop on Adaptive Wireless Networks (AWiN'05)*, St. Louis, Missouri, U.S.A., November 28, 2005.
13. C. J. Colbourn and V. R. Syrotiuk, "Scheduled Persistence for Medium Access Control in Sensor Networks," *Proceedings of the 1<sup>st</sup> IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS'04)*, Fort Lauderdale, Florida, U.S.A., October 25–27, 2004, pp. 264–273.
14. **M. Benaissa**, V. Lecuire, **D. W. McClary**, and V. R. Syrotiuk, "ANOVA-Informed Decision Trees for Voice Applications over MANETS," *Proceedings of the 6<sup>th</sup> IEEE International Conference on Mobile and Wireless Communication Networks (MWCN'04)*, Paris, France, October 25–27, 2004, pp. 143–154.
15. **M. Cui**, V. R. Syrotiuk, and C. J. Colbourn, "Securing Dynamic Spectrum Use," *Proceedings of the 60<sup>th</sup> IEEE Vehicular Technology Conference 2004 – Fall (VTC'F04)*, Los Angeles, California, U.S.A., September 26–29, 2004, pp. 1153–1157.
16. **K. K. Vadde** and V. R. Syrotiuk, "The Impact of QoS-Aware MAC Protocols in Classic and QoS MANET Architectures," *Proceedings of the SCS International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS'04)*, San Jose, California, U.S.A., July 25–29, 2004, pp. 561–568.
17. **K. K. Vadde** and V. R. Syrotiuk, "On Timers of Routing Protocols in Mobile Ad Hoc Networks," *Proceedings of the 3<sup>rd</sup> International Conference on Ad Hoc Networks and Wireless (AdHoc Now'04)*, Vancouver, B.C., Canada, July 22–24, 2004, pp. 330–335.
18. W. Chu, C. J. Colbourn, and V. R. Syrotiuk, "Topology Transparent Scheduling, Synchronization and Maximum Delay," *Proceedings of the 18<sup>th</sup> International Parallel and Distributed Processing Symposium (IPDPS'04)*, Santa Fe, New Mexico, U.S.A., April 26–30, 2004, pp. 223–228.
19. **P. C. Gurumohan**, T. J. Taylor, and V. R. Syrotiuk, "Topology Control for MANETs," *Proceedings of the IEEE Wireless Communications and Networking Conference (WCNC'04)*, Atlanta, Georgia, U.S.A., March 21–24, 2004, Vol. 1, pp. 599–603.
20. **P. Narayan** and V. R. Syrotiuk, "Evaluation of the DSR and AODV Routing Protocols using the MERIT Tool," *Proceedings of the 2<sup>nd</sup> International Conference on Ad Hoc Networks and Wireless (AdHoc Now'03)*, Montreal, Quebec, Canada, October 8–10, 2003, pp. 25–36.
21. C. J. Colbourn, V. R. Syrotiuk, and A. C. H. Ling, "Steiner Systems for Topology-Transparent Access Control in MANETs," *Proceedings of the 2<sup>nd</sup> International Conference on Ad Hoc Networks and Wireless (AdHoc Now'03)*, Montreal, Quebec, Canada, October 8–10, 2003, pp. 247–258.
22. V. R. Syrotiuk, C. J. Colbourn, and A. C. H. Ling, "Topology-Transparent Scheduling for MANETs using Orthogonal Arrays," *Proceedings of the DIALM-POMC Joint Workshop on Foundations of Mobile Computing (DIALM-POMC'03)*, San Diego, California, U.S.A., September 19, 2003, pp. 43–49.
23. V. R. Syrotiuk, "A Model of Protocol Interaction using Inverse Optimization," *Proceedings of the 9<sup>th</sup> International Conference on Information Systems, Analysis and Synthesis (ISAS'03)*, Orlando, Florida, U.S.A., July 31, August 1–2, 2003, Volume 5, pp. 57–61.
24. V. R. Syrotiuk and C. J. Colbourn, "Adaptive Bandwidth Utilization via Frequency Hopping and Erasure Coding," *Proceedings of the 9<sup>th</sup> International Conference on Information Systems, Analysis and Synthesis (ISAS'03)*, Orlando, Florida, U.S.A., July 31, August 1–2, 2003, Volume 5, pp. 62–65.
25. V. R. Syrotiuk and C. J. Colbourn, "Routing in Mobile Aerial Networks," *Proceedings of Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt'03)*, INRIA Sophia-Antipolis, France, March 3–5, 2003, pp. 293–301.

26. V. R. Syrotiuk and **M. Sevugan**, “Mobility Independent Medium Access Control in Support of Multimedia,” *Proceedings of the 5<sup>th</sup> International IEEE Symposium on Wireless Personal Multimedia Communications (WPMC’02)*, Honolulu, Hawaii, U.S.A., October 27–30, 2002, pp. 907–910.
27. A. Faragó and V. R. Syrotiuk, “Minimum Energy Broadcast with Performance Guarantee in Power-Controlled Ad Hoc Networks,” *Proceedings of the 14<sup>th</sup> International Conference on Wireless Communications (Wireless’02)*, Calgary, Alberta, Canada, July 8–10, 2002, pp. 408–417.
28. A. Faragó and V. R. Syrotiuk, “Algorithmic Problems in Power-Controlled Ad Hoc Networks,” *Proceedings of the 14<sup>th</sup> International Conference on Parallel and Distributed Computing Systems (PDCS’01)*, Dallas, Texas, U.S.A., August 8–10, 2001.
29. A. Faragó and V. R. Syrotiuk, “MERIT: A Unified Framework for Routing Protocol Assessment in Mobile Ad Hoc Networks,” *Proceedings of the 7<sup>th</sup> Annual ACM International Conference on Mobile Computing and Networking (MobiCom’01)*, Rome, Italy, July 16–21, 2001, pp. 53–60.
30. V. R. Syrotiuk, “An Efficient On-Line Algorithm for the Shortest Mobile Path Problem,” *Proceedings of the 13<sup>th</sup> International Conference on Wireless Communications (Wireless’01)*, Calgary, Alberta, Canada, July 9–11, 2001, pp. 154–160.
31. A. Faragó, **A. D. Myers**, V. R. Syrotiuk, and **G. V. Záruba**, “A New Approach to MAC Protocol Optimization,” *Proceedings of the IEEE Global Communications Conference (Globecom’00)*, San Francisco, California, U.S.A., November 29–December 1, 2000, pp. 1742–1746.
32. S. Basagni, I. Chlamtac, V. R. Syrotiuk, and **R. Talebi**, “On-Demand Location Aware Multicast (OLAM) for Ad Hoc Networks,” *Proceedings of the IEEE Wireless Communications and Networking Conference (WCNC’00)*, Chicago, Illinois, U.S.A., September 23–28, 2000, pp. 1323–1328, .
33. **A. D. Myers**, **G. V. Záruba**, and V. R. Syrotiuk, “An Adaptive Medium Access Control (MAC) Protocol for Reliable Broadcast in Wireless Networks,” *Proceedings of the IEEE International Conference on Communications (ICC’00)*, New Orleans, Louisiana, U.S.A., June 18–22, 2000, pp. 1692–1696.
34. S. Basagni, I. Chlamtac, and V. R. Syrotiuk, “Location Aware One-to-Many Communication in Mobile Multi-Hop Wireless Networks,” *Proceedings of the 51<sup>st</sup> IEEE International Vehicular Technology Conference – Spring (VTC’S00)*, Tokyo, Japan, May 15–18, 2000, pp. 288–292.
35. I. Chlamtac, A. Faragó, **A. D. Myers**, V. R. Syrotiuk, and **G. V. Záruba**, “A Performance Comparison of Hybrid and Conventional MAC Protocols for Wireless Networks,” *Proceedings of the 51<sup>st</sup> IEEE International Vehicular Technology Conference – Spring (VTC’S00)*, Tokyo, Japan, May 15–18, 2000, pp. 201–205.
36. I. Chlamtac, A. Faragó, **A. D. Myers**, V. R. Syrotiuk, and **G. V. Záruba**, “ADAPT: A Dynamically Self-Adjusting Media Access Control Protocol for Ad Hoc Networks,” *Proceedings of the IEEE Global Telecommunications Conference (Globecom’99)*, Rio de Janeiro, Brazil, December 5–9, 1999, pp. 11–15.
37. S. Basagni, I. Chlamtac, A. Faragó, V. R. Syrotiuk, and **R. Talebi**, “Route Selection in Mobile Multimedia Ad Hoc Networks,” *Proceedings of the 6<sup>th</sup> IEEE International Conference on Mobile Multimedia Communications (MoMuC’99)*, San Diego, California, U.S.A., November 15–17, 1999, pp. 97–103.
38. S. Basagni, I. Chlamtac, and V. R. Syrotiuk, “Dynamic Source Routing for Ad Hoc Networks Using the Global Positioning System,” *Proceedings of the IEEE Wireless Communications and Networking Conference (WCNC’99)*, New Orleans, Louisiana, U.S.A., September 21–24, 1999, pp. 301–305.

39. S. Basagni, **A. D. Myers**, and V. R. Syrotiuk, "Mobility-Independent Flooding for Real-Time, Multimedia Applications in Ad Hoc Networks," *Proceedings of the 1<sup>st</sup> IEEE Emerging Technologies Symposium on Wireless Communications and Systems (ETS'99)*, Richardson, Texas, U.S.A., April 12–13, 1999, pp. 20.1–20.5.
40. S. Basagni, I. Chlamtac, and V. R. Syrotiuk, "Geographic Messaging in Wireless Ad Hoc Networks," *Proceedings of the 49<sup>th</sup> Annual IEEE International Vehicular Technology Conference (VTC'99)*, Houston, Texas, U.S.A., May 16–20, 1999, pp. 1957–1961.
41. S. Basagni, I. Chlamtac, V. R. Syrotiuk, and **B. A. Woodward**, "A Distance Routing Effect Algorithm for Mobility (DREAM)," *Proceedings of the 4<sup>th</sup> ACM/IEEE International Conference on Mobile Computing and Networking (MobiCom'98)*, Dallas, Texas, U.S.A., October 25–30, 1998, pp. 76–84.
42. V. R. Syrotiuk, C. J. Colbourn, D. A. Klarner, and J. K. Pachl, "Characterizing Wang Tilings Using Finite Automata," *Proceedings of the 3<sup>rd</sup> International Workshop on Polyominoes and Tilings*, Toulouse, France, January 20–21, 1994, pp. 76–84.
43. V. R. Syrotiuk, C. J. Colbourn, and J. K. Pachl, "Wang Tilings and Distributed Orientation on Anonymous Torus Networks," *Proceedings of the 7<sup>th</sup> International Workshop on Distributed Algorithms (WDAG'93)*, Lausanne, Switzerland, September 27–29, 1993, in *Lecture Notes in Computer Science*, Springer-Verlag, Volume 725, 1993, pp. 264–278.
44. V. R. Syrotiuk and J. K. Pachl, "A Distributed Ring Orientation Algorithm," *Proceedings of the 2<sup>nd</sup> International Workshop on Distributed Algorithms (WDAG'87)*, Amsterdam, The Netherlands, July 8–10, 1987, in *Lecture Notes in Computer Science*, Springer-Verlag, Volume 312, 1987, pp. 332–336.

## Summary of Student Involvement

In alphabetical order:

**Mouna Benaissa** was a Ph.D. student at Université Henri Poincaré in France.

**Minghao Cui** is currently my Ph.D. student (since Fall 2004).

**Prabanjan "PJ" C. Gurumohan** was a Ph.D. student in Electrical Engineering at ASU.

**Kylan N. Johnson** was a M.S. student in Computer Science and Engineering at ASU.

**Youngjin Kwon** was my M.S. student (graduated Fall 2006).

**Daniel W. McClary** is currently my Ph.D. student (since Fall 2005).

**Michael P. McGarry** was a Ph.D. student in Electrical Engineering at ASU.

**Yuhan Moon** is currently my Ph.D. student (since Spring 2005).

**Andrew D. Myers** was my Ph.D. student at the University of Texas at Dallas (graduated Spring 2002).

**Priya Narayan** was my M.S. student at the University of Texas at Dallas (graduated Spring 2002).

**Suresh Ramkumar** was my M.S. student (graduated Fall 2003).

**Meyyappan Sevugan** was a Ph.D. student in Computer Science and Engineering at ASU.

**Kahkashan Shaukat** is currently my Ph.D. student (since Spring 2006).

**Rodeen Talebi** was my undergraduate honors thesis student at the University of Texas at Dallas.

**Kiran K. Vadde** was my Ph.D. student (graduated Fall 2005).

**Barry A. Woodward** was a M.S. student in Electrical Engineering at the University of Texas at Dallas.

**Gergely V. Záruba** was a Ph.D. student in Electrical Engineering at the University of Texas at Dallas.

## Publications (continued)

### c. National Conference Proceedings Reviewed Papers, Abstracts, and Presentations

In Computer Science and Engineering, presentations are made at a conference after the paper is refereed and accepted for publication in the proceedings. I presented the paper at the following conferences:

1. "Application of a Network Dynamics Analysis Tool to Mobile Ad Hoc Networks," 9<sup>th</sup> *ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems* (MSWiM'06), Torremolinos, Spain, October 2–6, 2006.
2. "A Carrier Sense Multiple Access Protocol with Power Backoff (CSMA/PB)," 5<sup>th</sup> *IFIP Annual Mediterranean Ad Hoc Networking Workshop* (MedHocNet'06), Lipari, Italy, June 14–17, 2006.
3. "Topology-Transparent Schedules for Energy Limited Ad hoc Networks," *IEEE International Workshop on Foundations and Algorithms for Wireless Networking* (FAWN'06), Pisa, Italy, March 13, 2006.
4. "Scheduled Persistence for Medium Access Control in Sensor Networks," 1<sup>st</sup> *IEEE International Conference on Mobile Ad-hoc and Sensor Systems* (MASS'04), Fort Lauderdale, Florida, U.S.A., October 25–27, 2004.
5. "Topology Transparent Scheduling, Synchronization and Maximum Delay," 18<sup>th</sup> *International Parallel and Distributed Processing Symposium* (IPDPS'04), Santa Fe, New Mexico, U.S.A., April 26–30, 2004.
6. "Evaluation of the DSR and AODV Routing Protocols using the MERIT Tool," 2<sup>nd</sup> *International Conference on Ad Hoc Networks and Wireless* (AdHoc Now'03), Montreal, Quebec, Canada, October 8–10, 2003.
7. "Topology-Transparent Scheduling for MANETs using Orthogonal Arrays," *DIALM-POMC Joint Workshop on Foundations of Mobile Computing* (DIALM-POMC'03), San Diego, California, U.S.A., September 19, 2003.
8. "A Model of Protocol Interaction using Inverse Optimization," 9<sup>th</sup> *International Conference on Information Systems, Analysis and Synthesis* (ISAS'03), Orlando, Florida, U.S.A., July 31, August 1–2, 2003.
9. "Routing in Mobile Aerial Networks," *Workshop on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks* (WiOpt'03), INRIA Sophia-Antipolis, France, March 3–5, 2003.
10. "Minimum Energy Broadcast with Performance Guarantee in Power-Controlled Ad Hoc Networks," 14<sup>th</sup> *International Conference on Wireless Communications* (Wireless'02), Calgary, Alberta, Canada, July 8–10, 2002.
11. "Algorithmic Problems in Power-Controlled Ad Hoc Networks," 14<sup>th</sup> *International Conference on Parallel and Distributed Computing Systems* (PDCS'01), Dallas, Texas, U.S.A., August 8–10, 2001.
12. "MERIT: A Unified Framework for Routing Protocol Assessment in Mobile Ad Hoc Networks," 7<sup>th</sup> *Annual ACM International Conference on Mobile Computing and Networking* (MobiCom'01), Rome, Italy, July 16–21, 2001.
13. "An Efficient On-Line Algorithm for the Shortest Mobile Path Problem," 13<sup>th</sup> *International Conference on Wireless Communications* (Wireless'01), Calgary, Alberta, Canada, July 9–11, 2001.
14. "An Adaptive Medium Access Control (MAC) Protocol for Reliable Broadcast in Wireless Networks," *IEEE International Conference on Communications* (ICC'00), New Orleans, Louisiana, U.S.A., June 18–22, 2000.

15. "Location Aware One-to-Many Communication in Mobile Multi-Hop Wireless Networks," 51<sup>st</sup> *IEEE International Vehicular Technology Conference – Spring* (VTC'S00), Tokyo, Japan, May 15–18, 2000.
16. "A Performance Comparison of Hybrid and Conventional MAC Protocols for Wireless Networks," 51<sup>st</sup> *IEEE International Vehicular Technology Conference – Spring* (VTC'S00), Tokyo, Japan, May 15–18, 2000.
17. "Route Selection in Mobile Multimedia Ad Hoc Networks," 6<sup>th</sup> *IEEE International Conference on Mobile Multimedia Communications* (MoMuC'99), San Diego, California, U.S.A., November 15–17, 1999.
18. "Dynamic Source Routing for Ad Hoc Networks Using the Global Positioning System," *IEEE Wireless Communications and Networking Conference* (WCNC'99), New Orleans, Louisiana, U.S.A., September 21–24, 1999.
19. "Geographic Messaging in Wireless Ad Hoc Networks," 49<sup>th</sup> *Annual IEEE International Vehicular Technology Conference* (VTC'99), Houston, Texas, U.S.A., May 16–20, 1999.
20. "A Distance Routing Effect Algorithm for Mobility (DREAM)," 4<sup>th</sup> *ACM/IEEE International Conference on Mobile Computing and Networking* (MobiCom'98), Dallas, Texas, U.S.A., October 25–30, 1998.
21. "Wang Tilings and Distributed Orientation on Anonymous Torus Networks," 7<sup>th</sup> *International Workshop on Distributed Algorithms* (WDAG'93), Lausanne, Switzerland, September 23–29, 1993.
22. "A Distributed Ring Orientation Algorithm," 2<sup>nd</sup> *International Workshop on Distributed Algorithms* (WDAG'87), Amsterdam, The Netherlands, July 8–10, 1987.

## Publications (continued)

Names in bold indicate graduate students.

### d. Book Publishing

1. **S. Nagi** and V. R. Syrotiuk, “Hybrid Medium Access Control Protocols for 0 Wireless Networks,” to appear in *Medium Access Control in Wireless Networks*, H. Wu and Y. Pan, eds., Nova Science Publishers, Inc.
2. **M. Cui** and V. R. Syrotiuk, “Power Control and Management in MAC Protocols for MANETs,” to appear in *Medium Access Control in Wireless Networks*, H. Wu and Y. Pan, eds., Nova Science Publishers, Inc.
3. V. R. Syrotiuk, **B. Li**, and A. M. Mielke, “Heterogeneous Wireless Sensor Networks,” to appear in *Algorithms and Protocols for Wireless Ad hoc and Sensor Networks*, A. Boukerche, ed., John Wiley & Sons.
4. V. R. Syrotiuk and E. Chávez, eds., “Best Papers of Ad Hoc Now 2005,” *Journal of Discrete Algorithms* 5(3), September 2007.
5. V. R. Syrotiuk, “Medium Access Control (MAC) Protocols for Wireless Networks,” in *Handbook of Algorithms for Wireless Networking and Mobile Computing*, A. Boukerche, ed., Chapman & Hall/CRC, Computer and Information Science Series, 2006, Chapter 3, pp. 23–44.
6. V. R. Syrotiuk and E. Chávez, eds., “Ad Hoc, Mobile, and Wireless Networks,” Lecture Notes in Computer Science (LNCS), Volume 3738, 360 pages, Springer-Verlag, 2005.
7. V. R. Syrotiuk and **A. Bikki**, “Modeling Cross Layer Interaction using Inverse Optimization,” in *Ad Hoc Networking*, S. Basagni, M. Conti, S. Giordano, and I. Stojmenovic, eds., John Wiley & Sons, 2004, Chapter 15, pp. 411–426.
8. A. Faragó and V. R. Syrotiuk, “Medium Access Control (MAC) Protocols,” *Encyclopedia of Telecommunications*, J. Proakis, ed., John Wiley & Sons, 2003, pp. 1342–1349.

### Summary of Student Involvement

In alphabetical order:

**Amaresh Bikki** was my M.S. student at the University of Texas at Dallas (graduated Summer 2002).

**Minghao Cui** is currently my Ph.D. student (since Fall 2004).

**Bing Li** was my M.S. student (graduated Spring 2007).

**Supreet Nagi** is currently my M.S. student (since Fall 2006).

## Publications (continued)

### e. Other Publications

1. “Method and Device for Communicating Data Within a Network by Combining Different Communication Approaches,” U.S. Patent Number 7,159,027, dated January 2, 2007.
2. Editorial, V. R. Syrotiuk and E. Chávez, *Journal of Discrete Algorithms* 5(3) : 393–394, September 2007.

## Publications (continued)

### f. Invited Presentations

1. “Cover-Free Families and Topology-Transparent Communication,” Zhejiang University, Hangzhou, China, June 19, 2007.
2. “Cover-Free Families and Topology-Transparent Communication,” *International Workshop on Combinatorics*, Kyoto University, Kyoto, Japan, June 13, 2007.
3. “Network Protocols: Interactions and their Statistical Optimization,” 21<sup>st</sup> *IEEE Workshop on Computer Communications (CCW’07)*, Pittsburgh, Pennsylvania, U.S.A., February 5, 2007.
4. “Research Overview in Mobile Ad Hoc Networks,” General Dynamics C4 Systems, Scottsdale, Arizona, U.S.A., January 31, 2007.
5. “Building and Managing a Strong Research Group,” Panelist, *Grace Hopper Celebration of Women in Computing*, San Diego, California, U.S.A., October 5, 2006.
6. “Neural Network Enabled Rate-Control for Mobile Ad Hoc Networks,” Dipartimento di Ingegneria Informatica e delle Telecomunicazioni, Università di Catania, Catania, Italy, June 19, 2006.
7. “Network Protocols: Interactions and their Statistical Optimization,” Department of Computing Science, University of Alberta, Edmonton, Alberta, Canada, November 24, 2005.
8. “Directed Complete Bipartite Graph Decompositions and Energy-Limited Sensor Networks,” Dipartimento di Matematica e Informatica, Università di Catania, Catania, Italy, March 15, 2005.
9. “Factor Interaction on Service Delivery in Mobile Ad Hoc Networks,” Department of Mathematics and Computer Sciences, Colorado School of Mines, Golden, Colorado, U.S.A., June 29, 2004.
10. “Problems in Discrete Mathematics motivated by Mobile Ad Hoc Networks,” Plenary Invited Lecture at the *Workshop on Working Applications of Discrete Mathematics*, University of Queensland, Brisbane, Australia, January 14, 2004.
11. “Heterogeneity, Scalability, and Cross-Layer Design in MANETs,” Plenary Invited Lecture at the 2<sup>nd</sup> *International Conference on Ad Hoc Networks and Wireless (Ad Hoc Now’03)*, Montreal, Quebec, Canada, October 9, 2003.
12. “Research in Mobile Ad Hoc Networks (MANETs),” Signal Processing Center of Excellence, General Dynamics Decision Systems, Scottsdale, Arizona, U.S.A., February 7, 2003.
13. “New Results on MERIT, A Scalable Approach to Protocol Assessment,” Department of Computer Science, University of Auckland, Auckland, New Zealand, June 5, 2002.
14. “Meta-MAC Protocols: Automatic Combination of MAC Protocols to Optimize Performance for Unknown Conditions,” Telecommunications Research Center, Arizona State University, Tempe, Arizona, U.S.A., April 22, 2002.
15. “MERIT: A Scalable Approach to Protocol Assessment,” Department of Mathematics and Computer Sciences, Colorado School of Mines, Golden, Colorado, U.S.A., October 12, 2001.
16. “Algorithmic Aspects of Power Controlled Ad Hoc Networks,” Department of Computer Science and Engineering, University of Texas at Arlington, Arlington, Texas, U.S.A., September 25, 2001.
17. “TSMA, A Synchronous MAC Protocol,” Invited lecture at the *GloMoSim/Parsec Workshop*, University of California, Los Angeles, Los Angeles, California, U.S.A., November 11, 1999.

## Research Grants

### a. Sponsored Research — External

A summary is provided on the following page.

1. Principal Investigator, *Design and Analysis of Algorithms for Heterogeneous Sensor Networks*, \$72,177, Los Alamos National Laboratory (LANL), Los Alamos, New Mexico, U.S.A. Co-Principal Investigator: C. J. Colbourn (CSE). January 2005 – January 2008.
2. Principal Investigator, *Characterizing Protocol Interaction in NEWS: A Network Environment Wireless State Service*, \$516,000, National Science Foundation, NSF ANI-0240524 (includes REU supplements). Collaborative proposal with T. K. Camp, Colorado School of Mines. June 2003 – May 2008.
3. Co-Principal Investigator, *MERIT: A Formal Framework for Systematic Protocol Assessment*, \$431,086, National Science Foundation, Small Information Technology Research (ITR), NSF ANI-0220001, Principal Investigator: A. Faragó, University of Texas at Dallas. October 2002 – September 2007.
4. Principal Investigator, *Routing Protocol Design Toolset for Wireless Ad Hoc Networks to Maximize Quality of Service*, \$20,000, Architecture Technology Corporation (ATC), Minneapolis, Minnesota, U.S.A. Co-Principal Investigator: M. KulaHCI (IE). December 2006 – April 2007.
5. Principal Investigator, *Probe Placement in Wireless Networks*, \$54,465, Defence Science and Technology Organisation (DSTO), Australia. Co-Principal Investigator: C. J. Colbourn (CSE). January 2005 – December 2006.
6. Co-Principal Investigator, *Meta-MAC Protocols: A New Dimension to Adaptation in Medium Access Control*, \$300,000, National Science Foundation, NSF ANI-0105985. Principal Investigator: A. Faragó, University of Texas at Dallas. September 2001 – August 2006.
7. Principal Investigator, *Modelling Cross-Layer Interaction to Achieve Power Savings in Connectionless Networks*, \$54,854, General Dynamics Decision Systems (GDDS), Scottsdale, Arizona, U.S.A. Co-Principal Investigator: C. J. Colbourn (CSE). January 2004 – September 2004.
8. Principal Investigator, *Policy Manager for Next Generation (XG) Communications*, \$50,115, Raytheon Company, Falls Church, Virginia, U.S.A. January 2003 – August 2003.
9. Principal Investigator, *2002 ACM MobiCom Student Travel Support*, \$12,000, National Science Foundation, NSF ANI-0225521. June 2002 – November 2002.
10. Principal Investigator, *2001 ACM MobiHoc Symposium Support*, \$8000, National Science Foundation, NSF ANI-0125444. September 2001 – December 2001.
11. Principal Investigator, *Future Combat Systems Communications Modeling*, \$100,000, Raytheon Company, Plano, Texas, U.S.A. June 2001 – August 2002.

## Research Grants (continued)

### Sponsored Research — External — Summary

This table summarizes my external sponsored research. Each line in the table corresponds to the grant with the same number listed on the previous page.

	Sponsor	Account	Recognition	RID	IIA	Total Award \$	My Award \$
1.	LANL	CRS 0054	50%	50%	50%	\$72,177.00	\$36,088.50
2.	NSF	CRA 6022	100%	100%	100%	\$516,000.00	\$233,324.00
3.	NSF	CRS 0011	50%	50%	50%	\$431,086.00	\$215,544.00
4.	ATC	CRS 0096	50%	50%	50%	\$20,000.00	\$10,000.00
5.	DSTO	CRS 0056	50%	50%	50%	\$54,465.00	\$26,732.50
6.	NSF	CRS 0012	50%	50%	50%	\$300,000.00	\$150,000.00
7.	GDDS	CRS 0022	50%	50%	50%	54,854.00	\$27,427.00
8.	Raytheon	CRJ 0012	100%	100%	100%	\$50,115.00	\$50,115.00
9.	NSF		100%	100%	100%	\$12,000.00	\$12,000.00
10.	NSF		100%	100%	100%	\$8,000.00	\$8,000.00
11.	Raytheon		100%	100%	100%	\$100,000.00	\$100,000.00
<b>Total:</b>						\$1,618,697.00	\$869,231.00

- **Sponsor:** the sponsor funding the grant/contract.
- **Account:** the account number at Arizona State University associated with the grant/contract.
- **Recognition:** Recognition refers to the percentage of the project for which I receive credit on annual reports of proposal and award dollars.
  - In collaborative grants involving PIs from different institutions, such as CRS 6022, subcontracts are not issued. NSF funds each PI directly; hence the recognition is 100%.
  - The NSF award associated with account CRS 0012 was awarded while I was at the University of Texas at Dallas. \$135,159 of the \$150,000 was subcontracted to Arizona State University; the remaining expenditures were processed by the University of Texas at Dallas.
- **RID:** Research incentive distribution.
- **IIA:** Investigator incentive award.
- **Total Award \$:** The total of the award in dollars.
- **My Award \$:** Of the total award, the award dollars attributed to me.

## Student Theses and Dissertations Supervised

### a. Masters Theses Awarded

1. Manasi Velhankar, “A Multi-Channel MAC Layer Protocol with Dynamic Bandwidth Allocation for Ad Hoc Networks,” Spring 2007.
2. Bing Li, “An Evaluation of Contention and Scheduled MAC Protocols for Wireless Sensor Networks,” Spring 2007.
3. Dmitri Lushnikov, “Rateless Forward Erasure Correction for Data Dissemination in Wireless Sensor Networks,” Fall 2006.
4. Youngjin Kwon, “Analysis of Network Dynamics in Mobile Ad Hoc Networks,” Fall 2006.
5. Michael R. Van Milligan, “An Energy Efficient Topology Transparent Medium Access Control Protocol,” Summer 2006.
6. Kahkashan Shaukat, “Integrating OLSR into the MERIT Assessment Framework,” Fall 2005.
7. Sitaram Shah, “A Protocol Interaction Study using Design and Analysis of Experiments,” Fall 2004.
8. Minghao Cui, “Securing Dynamic Spectrum Use,” Summer 2004.
9. Satish Doraiswamy, “An Extended MERIT Framework for Assessment of MANET Routing Protocols,” Summer 2004.
10. Sruthi Yellamraju, “Erasure Codes as an Acknowledgement Scheme in Topology Transparent Scheduling,” Spring 2004.
11. Suresh Ramkumar, “Adaptive Bandwidth Utilization,” Fall 2003.
12. Amaresh Bikki, “Using Inverse Optimization to Model the Effect of Congestion on Routing Protocols in MANETs,” Summer 2002.
13. Priya Narayan, “Evaluation of MANET Routing Protocols using the MERIT Framework,” Spring 2002.

### b. Doctoral Dissertations Awarded

1. Kiran K. Vadde, “Network Protocols: Interactions and their Statistical Optimization,” Fall 2005.
2. Andrew D. Myers (co-advised by I. Chlamtac), “Hybrid Media Access Control Techniques for Ad Hoc Wireless Networks,” Spring 2002. Winner of the Outstanding Doctoral Dissertation Award at the University of Texas at Dallas.

## Student Theses and Dissertations Supervised (continued)

### c. Current Graduate Projects in Progress

#### Ph.D. Candidates:

1. Minghao Cui, since Fall 2004.
2. Daniel W. McClary, since Fall 2005.
3. Yuhan Moon, since Spring 2005.
4. Suhaib A. Obeidat, since Spring 2007.
5. Kahkashan Shaukat, since Spring 2006.

#### M.S. Candidates:

1. Harvey D. Hirst, since Spring 2005.
2. Sanket Joshi (co-advised by M. A. Janssen (CSE)), since Spring 2007.
3. Supreet Nagi, since Fall 2006.

## Professional and Scientific Service

### a. Local Professional Committees

N/A

### b. Scientific and Professional Society Memberships

1. Association for Computing Machinery (ACM).
2. Institute of Electrical and Electronics Engineers (IEEE).
3. American Society for Engineering Education (ASEE).

### c. Conference Activities

- Technical Program Committee Co-Chair, with Roberto Baldoni (Università di Roma “La Sapienza,” Italy), *1<sup>st</sup> International Conference on Autonomic Computing and Communication Systems (Autonomics)* 2007.
- Technical Program Committee Co-Chair, with Edgar Chávez (Universidad Michoacana, Mexico), *4<sup>th</sup> International Conference on Adhoc Networks and Wireless (Ad Hoc Now)* 2005.
- Steering Committee, *International Conference on Adhoc Networks and Wireless (Ad Hoc Now)*, since 2004.
- Finance Chair, *ACM Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)* 2003.
- Student Travel Award Co-Chair, *ACM International Conference on Mobile Computing and Networking (Mobicom)* 2002.
- Finance Co-Chair, *ACM Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)* 2001.
- Publications Co-Chair, *IEEE/ACM Workshop on Mobile Ad Hoc Networking and Computing (MobiHoc)* 2000.
- Technical Program Committee:
  - *ACM International Conference on Mobile Computing and Networking (MobiCom)* 2002–2007
  - *ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)* 2006–2007
  - *ACM International Workshop on Discrete Algorithms and Methods for Mobility (DIAL-M)* 2001
  - *ACM International Workshop on Mobile Opportunistic Networking (MobiOpp)* 2007
  - *ACM Joint Workshop on Foundations of Mobile Computing (DIAL-M/POMC)* 2004
  - *ACM International Workshop on QoS and Security for Wireless and Mobile Networks (Q2SWINET)* 2006
  - *ACM Workshop on Performance Evaluation of Wireless Ad Hoc, Sensor, and Ubiquitous Networks (PE-WASUN)* 2005
  - *IEEE Annual Joint Conference of the Computer and Communications Societies (Infocom)* 2005–2008
  - *IEEE Global Telecommunications Conference (Globecom)* 2006–2007
  - *IEEE International Conference on Communications (ICC)* 2006

- *IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS)* 2006
  - *IEEE International Conference on High Performance Computing (HiPC)* 2005
  - *IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)* 2004–2007
  - *IEEE International Conference on Quality of Service in Heterogeneous Wired/Wireless Networks (QShine)* 2004
  - *IEEE Annual Conference on Wireless On demand Network Systems and Services (WONS)* 2005–2006
  - *IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)* 2006–2007
  - *IEEE International Workshop on Mobile Vehicular Networks (MoVeNet)* 2007
  - *IEEE Semiannual Vehicular Technology Conference (VTC)* Fall 2005, Spring 2008
  - *IEEE Workshop on Autonomic and Opportunistic Communications (AOC)* 2007
  - *IEEE/ACM Annual International Conference on Mobile and Ubiquitous Systems: Networking and Services (MobiQuitous)* 2005–2006
  - *IFIP-TC6 Networking Conference (Networking)* 2002, 2004–2007
  - *IFIP Mobile and Wireless Communications Networks Conference (MWCN)* 2004, 2006
  - *IFIP Annual Mediterranean Ad Hoc Networking Workshop (MedHocNet)* 2004, 2006
  - *Microsoft International Conference on E-business and Telecommunication Networks (ICETE)* 2005
  - *SCS International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS)* 2005
  - *Colloquium on Structural Information and Communication Complexity (Sirocco)* 2006
  - *Grace Hopper Celebration of Women in Computing (GHC)* 2002
  - *International Conference on Adhoc Networks and Wireless (Ad Hoc Now)* 2004–2007
  - *International Conference on Integrated Internet Ad hoc and Sensor Networks (InterSense)* 2006
  - *International Conference on Telecommunications and Multimedia (TEMU)* 2006
  - *International Workshop on Wireless Mobile Multimedia (WoWMoM)* 1998–2000, 2005
  - *International Workshop on Convergence of Heterogeneous Wireless Networks (ConWin)* 2005
  - *Workshop on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt)* 2003–2005
- Ad hoc Reviewer for:
    - *IEEE Communications Magazine*
    - *IEEE Instrumentation and Measurement Magazine*
    - *IEEE Network Magazine*
    - *IEEE Personal Communications Magazine*
    - *IEEE Wireless Communications Magazine*
    - *IEEE Annual Joint Conference of the Computer and Communications Societies (Infocom)* 2002–2004
    - *IEEE Global Telecommunications Conference (Globecom)* 2004
    - *IEEE International Conference on Communications (ICC)* 2002–2003
    - *IEEE International Conference on Distributed Computing Systems (ICDCS)* 2003

- *IEEE International Workshop on Algorithms for Wireless, Mobile, Ad Hoc and Sensor Networks (WMAN)* 2003
- *ACM International Workshop on Mobility Management and Wireless Access (MobiWac)* 2004
- *European Wireless* 2002, 2005
- *International Conference on Computer Communications and Networks (IC3N)* 2001

#### **d. Journal Referee Service**

- Editorial Board, *Computer Networks* (Elsevier), since 2004.
- Reviewer for:
  - *IEEE/ACM Transactions on Networking*
  - *IEEE Journal on Selected Areas in Communications*
  - *IEEE Transactions on Computers*
  - *IEEE Transactions on Mobile Computing*
  - *IEEE Transactions on Parallel and Distributed Systems*
  - *IEEE Transactions on Pervasive and Mobile Computing*
  - *IEEE Transactions on Vehicular Technology*
  - *IEEE Transactions on Wireless Communications*
  - *Elsevier, Computer Communications*
  - *Elsevier, Computer Networks*
  - *Elsevier, Journal of Parallel and Distributed Computing*
  - *Elsevier, Journal on Wireless Networks*
  - *Elsevier, Pervasive and Mobile Computing Journal*
  - *ACM Computing Reviews*
  - *ACM Mobile Computing and Communications Review*
  - *ACM/Baltzer Wireless Networks*
  - *ACM/Kluwer Mobile Networking and Applications*
  - *Oxford University Press, The Computer Journal*
  - *SCS Simulation: Transactions of the Society for Modeling and Simulation International*
  - *Springer-Verlag, Algorithmica*
  - *Wiley, Journal of Wireless Communications and Mobile Computing*
  - *EURASIP, Journal on Wireless Communications and Networking*
  - *Australasian Journal of Combinatorics*

#### **e. Proposal Reviewer Service**

- Reviewed for the Interactive Digital Media Program, National Research Foundation, Singapore 2007.
- Reviewed collaborative research and development grant proposal for the Natural Sciences and Engineering Research Council of Canada (NSERC), 2006.
- Reviewed proposal for National Science Foundation, 2004.
- National Science Foundation, Review Panel, 2003.
- National Science Foundation, Review Panel, 2001.

## University Committee Service

### a. University

- Faculty Advisory Council, Eugene McDermott Scholars Program, University of Texas at Dallas. Spring 2001 – Summer 2002.
- Committee on Student Life, University of Texas at Dallas. Fall 2000 – Summer 2002.

### b. College

- Diversity Committee, Ira A. Fulton School of Engineering, AY 2006–2007.
- Telecommunications Engineering Undergraduate Curriculum Committee, Erik Jonsson School of Engineering and Computer Science, University of Texas at Dallas. Summer 2001 – Summer 2002.

### c. Department

- Thesis committee of:

Narasimha Challa	Ph.D. CSE	ASU (in progress)
Toni Farley	Ph.D. CSE	ASU (in progress)
Wayne Huber	Ph.D. CSE	ASU (in progress)
Geert Van der Auwera	Ph.D. EE	ASU (in progress)
Lifu Wang	Ph.D. CSE	ASU (in progress)
Sean Williams	Ph.D. CSE	ASU (in progress)
Ling Zhao	Ph.D. CSE	ASU (in progress)
Oleg Bakun	M.S. CSE	ASU (in progress)
Kenneth Bannister	M.S. CSE	ASU (in progress)
Prasad Hegde	M.S. CSE	ASU (in progress)
Aditya Kanitkar	M.S. CSE	ASU (in progress)
Akhil Koo	M.S. CSE	ASU (in progress)
Ashwini Ravishankar	M.S. CSE	ASU (in progress)
Sujit Sanjeev	M.S. CSE	ASU (in progress)
Okehee Goh	Ph.D. CSE	ASU (graduated Fall 2006)
Prabhanjan C. “PJ” Gurumohan	Ph.D. EE	ASU (graduated Fall 2005)
Dean Hoskins	Ph.D. CSE	ASU (graduated Spring 2006)
Jin Wook Lee	Ph.D. CSE	ASU (graduated Fall 2005)
Sanket Nesargi	Ph.D. CS	UTD (graduated Fall 2002)
Anja Remshagen	Ph.D. CS	UTD (graduated Summer 2001)
Hidayat Ozgur Sanli	Ph.D. CSE	ASU (graduated Summer 2007)
Jian Tang	Ph.D. CSE	ASU (graduated Spring 2006)
Uma Jain	M.S. CS	UTD (graduated Fall 2001)
Kylan Johnson	M.S. CSE	ASU (graduated Fall 2005)
Daniel Russo	M.S. CS	UTD (graduated Spring 2002)

- Graduate Program Committee, AY 2005–2006, 2006–2007, 2007–2008 (Chair).
- Undergraduate Admissions Committee, AY 2004–2005.
- ACM Student Society Faculty Liaison, AY 2004–2005.
- Computing Resources Committee, AY 2003–2004.

- Publicity Committee, AY 2003–2004.
- Member of the Networks Technical Area Committee (Chair in AY 2004-2005) and the Operating Systems Technical Area Committee. Since Fall 2002.
- Teaching Assistantship Committee. AY 2002–2003.
- NSF 00-5 CISE Research Infrastructure Program, proposal committee. Summer 2001.
- CS Equipment committee. Fall 2000 – Fall 2001. Built CS technical support team after ECS split, planning for new ECS building, and support for network programming courses with cluster of 50 Netras.
- Volunteered to participate in WebCT (Web Course Tools) pilot program. Fall 2000. Helped encourage and facilitate its use by the CS department.
- CS Undergraduate curriculum committee. Fall 1999 – Summer 2002.
- CS Graduate student advising, including the formulation of degree plans, and the evaluation of waiver and transfer requests. Introduced the idea of degree planning seminars. Fall 1994 – Fall 1999.
- CS Curriculum subcommittee. Introduced a proposal to redefine the contents of the networks courses to form a two course sequence. Fall 1998.
- Committee responsible for defining the Fast-Track program, the possibility to earn both the B.S. and M.S. degrees in Computer Science in five years of study. Spring 1996.
- CS Curriculum subcommittee. Introduced a proposal to delete *Systems Programming* and redefine CS 6378 as a course in distributed operating systems. Spring 1995.
- CS Graduate admissions committee. February 1993 – July 1994.
- TARGET workshop co-chair. September 1992 – June 1993.
- CS Seminar coordinator. September 1990 – August 1992.
- CS Undergraduate curriculum review. June 1991 – May 1992.
- Other:
  - Invited to present to the *Women in Computer Science* group, Arizona State University, October 22, 2003.
  - Invited to panel on *Dissertation Writing* for Ph.D. students, organized by the Graduate Office, University of Texas at Dallas, July 16, 2002.
  - Invited speaker at the *Girl Scouts of Tejas (sic) Council's "Yes! You Can!" Leadership Conference for Girls*, February 25, 2000.

## Evaluation of Instruction

### a. Summary of Student Evaluations

CSE 310 and CSE 430 are both required, core undergraduate courses.

Course Number	Semester Offered	Response Rate	Evaluation of Course	Evaluation of Instructor
CSE 430	Fall 2002	39/51	3.63	3.89
CSE 591	Fall 2002	17/20	3.94	4.36
CSE 430	Fall 2003	26/51	3.84	4.15
CSE 591	Spring 2004	6/8	4.34	4.69
CSE 430	Fall 2004	26/36	3.93	4.15
CSE 310	Spring 2005	21/24	3.48	3.51
CSE 591	Spring 2005	9/15	3.86	4.33
CSE 598	Spring 2005	4/4	4.46	4.44
CSE 591	Fall 2005	9/10	4.23	4.31
CSE 310	Spring 2006	22/43	3.74	4.07
CSE 310	Fall 2006	27/41	3.69	3.73
CSE 591	Fall 2006	27/36	3.71	4.16
CSE 430	Spring 2007	13/19	4.31	4.5
<b>Average:</b>			3.94	4.20

### b. New Courses and Course Material Developed

1. At Arizona State University, I have developed CSE 591 *Mobile Ad Hoc Networking and Computing*, a research topics course. The topics studied and the technical papers read change with each offering of the course to keep pace with the current developments in the research area. The course has been offered five times; four times, publications with students have resulted.
2. At the University of Texas at Dallas, I made two significant contributions to the curriculum:
  - (a) I proposed a two course sequence to replace the contents of the computer networks course. This proposal was adopted by the department.
  - (b) I proposed a revised curriculum for CS 6378 as a course in *Advanced Operating Systems*, a new course in distributed operating systems. This proposal was adopted by the department. I taught the first offering of the course.

### c. Undergraduate Projects Supervised

1. Rumana Islam, NSF Research Experience for Undergraduates (REU), Since Spring 2007.
2. Shaher Al Marzougi, NSF Research Experience for Undergraduates (REU), Fall 2006.
3. Treavyonne Jeffries, NSF Research Experience for Undergraduates (REU), Spring 2005 – Spring 2006.
4. Bobby Janecka, 2002 Eugene McDermott Scholar, Summer Research Scholarship, Summer 2002.
5. Justin Appleby, 2001 Eugene McDermott Scholar, Summer Research Scholarship, Summer 2001.
6. Steven Blackburn, “A  $k$ -means Clustering Protocol for Ad Hoc Networks,” Spring 2000.
7. Rodeen Talebi, “On-Demand Location-Aware Multicast (OLAM) for Ad Hoc Networks,” Spring 1999.

8. James D. Hope II, "Data Security Over Computer Networks," Fall 1997.
9. Gwendolyn Hill, "Asynchronous Checkpointing for Distributed Systems," Fall 1997.
10. Michael K. Archer, "A Scalable External Sort for Distributed Operating Systems," Spring 1996.
11. Wayne S. Chan, Summer Research Internship, "The Evolution of Linear Cellular Automata and the Classification of their Limit Languages," Summer 1992.