

# Loren Schwiebert

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## EDUCATION

*Ph.D. in Computer and Information Science*, June 1995

The Ohio State University, Columbus, Ohio

Dissertation: "A Comprehensive Study of Communication in Distributed-Memory Multiprocessors"

Advisor: D. N. Jayasimha

*M.S. in Computer and Information Science*, December 1990

The Ohio State University, Columbus, Ohio

*B.S. in Computer Science (with dual major in Mathematics), Cum Laude*, May 1986

Heidelberg College, Tiffin, Ohio

## EMPLOYMENT

**Dept. of Computer Science**, Wayne State University

August '00 - Present.

*Associate Professor* (Promotion to Associate Professor effective August, 2001.)

**Dept. of Electrical and Computer Engineering**, Wayne State University

August '95 - August '00.

*Assistant Professor*

**Graduate School**, The Ohio State University

July '94 - June '95.

*Graduate Fellow*

**Dept. of Computer & Information Science**, The Ohio State University

Sept. '89 - June '94.

*Graduate Teaching Associate*

**National Machinery Company**, Tiffin, Ohio

Nov. '85 - Sept. '89.

*Systems Programmer*

## PUBLICATIONS

### Books

- F. Adelstein, S. K. S. Gupta, G. Richard, and L. Schwiebert, "Fundamentals of Mobile and Pervasive Computing: Emphasizing Embedded Wireless Sensor Networking, Ubiquitous Computing, and Middleware," McGraw-Hill, 2004.

### Book Chapters

- L. Marziale, S. Movva, G. G. Richard III, V. Roussev, and L. Schwiebert, "Chapter 10: Massively Threaded Digital Forensics Tools," in *Handbook of Research on Computational Forensics, Digital Crime and Investigation: Methods and Solutions*, Chang-Tsun Li, editor, IGI Global, November 2009.

- Y. Xi and L. Schwiebert, "Chapter 5: Security in Wireless Sensor Networks," in *Wireless Ad Hoc Networking: Personal-Area, Local-Area, and Sensory-Area Networks*, Y.-C. Tseng and S.-L. Wu, editors, Taylor & Francis Group, March 2007.
- F. Martincic and L. Schwiebert, "Chapter 1: Introduction to Wireless Sensor Networking," in *Handbook of Sensor Networks: Algorithms and Architectures*, I. Stojmenović, editor, John Wiley & Sons Inc., 2005.
- M. Kochhal, L. Schwiebert, and S. K. S. Gupta, "Chapter 22: Self-Organization of Wireless Sensor Networks," in *Handbook on Theoretical and Algorithmic Aspects of Sensor, Ad Hoc Wireless, and Peer-to-Peer Networks*, J. Wu, editor, Auerbach Publications, 2005.
- A. Salhieh and L. Schwiebert, "Chapter 14: Power-Efficient Topologies for Wireless Sensor Networks," in *Handbook of Sensor Networks: Compact Wireless and Wired Sensing Systems*, M. Ilyas and I. Mahgoub, editors, CRC Press, 2004.

### Journal Publications

- V. Russo and L. Schwiebert, "Beatty Sequences, Fibonacci Numbers, and the Golden Ratio," *The Fibonacci Quarterly*, 49(2):151–154, May 2011.
- Y. Xi, W. Shi, and L. Schwiebert, "Probabilistic Adaptive Anonymous Authentication in Vehicular Networks," *Journal of Computer Science and Technology*, 23(6):916–928, November 2008.
- Y. Xi, K. Sha, W. Shi, L. Schwiebert, and T. Zhang, "Mobile Anonymity of Dynamic Groups in Vehicular Networks," *Security and Communication Networks*, 1(3):219–231, May/June 2008.
- Q. Tang, N. Tummala, S. K. S. Gupta, and L. Schwiebert, "Communication Scheduling to Minimize Thermal Effects of Implanted Biosensor Networks in Homogeneous Tissue," *IEEE Transactions on Biomedical Engineering*, 52(7):1285–1294, July 2005.
- I. Raicu, L. Schwiebert, S. Fowler, and S. K. S. Gupta, "Local Load Balancing for Globally Efficient Routing in Wireless Sensor Networks," *International Journal of Distributed Sensor Networks*, 1(2):163–185, April-June 2005.
- M. Kochhal, L. Schwiebert, and S. K. S. Gupta, "Integrating Sensing Perspectives for Better Self Organization of Ad hoc Wireless Sensor Networks," *Journal of Information Science and Engineering*, 20(3):449–475, May 2004.
- A. Salhieh and L. Schwiebert, "Power-Aware Metrics for Wireless Sensor Networks," *International Journal of Computers & Applications*, 26(2):119–125, 2004.
- F. Adelstein, G. Richard, and L. Schwiebert, "Distributed Multicast Tree Generation with Dynamic Group Membership," *Computer Communications*, 26(10):1105–1128, June 20, 2003.
- D. N. Jayasimha, L. Schwiebert, D. Manivannan, and J. A. May, "A Foundation for Designing Deadlock-free Routing Algorithms in Wormhole Networks," *Journal of the ACM*, 50(2):250–275, March 2003.
- L. Schwiebert, "There is No Optimal Routing Policy for the Torus," *Information Processing Letters*, 83(6):331–336, September 30, 2002.
- L. Schwiebert and R. Bell, "Performance Tuning of Adaptive Wormhole Routing through Selection Function Choice," *Journal of Parallel and Distributed Computing*, 62(7):1121–1141, July 2002.
- L. Schwiebert, "Deadlock-Free Oblivious Wormhole Routing with Cyclic Dependencies," *IEEE Transactions on Computers*, 50(9):865–876, September 2001.
- L. Schwiebert and L. Y. Wang, "Robust Control and Rate Coordination for Efficiency and Fairness in ABR Traffic with Explicit Rate Marking," *Computer Communications*, 24(13):1329–1340, August 2001.

- L. Schwiebert and R. Chintalapati, “Improved Fault Recovery in Core Based Trees,” *Computer Communications*, 23(9):816–824, April 2000.
- L. Schwiebert and D. N. Jayasimha, “A Necessary and Sufficient Condition for Deadlock-Free Wormhole Routing,” *Journal of Parallel and Distributed Computing*, 32(1):103–117, January 1996.
- L. Schwiebert and D. N. Jayasimha, “Optimal Fully Adaptive Minimal Wormhole Routing for Meshes,” *Journal of Parallel and Distributed Computing*, 27(1):56–70, May 1995.
- F. Adelstein, G. Richard, L. Schwiebert, R. Parent, and M. Singhal, “A Distributed Graphics Library System,” *Software—Practice and Experience*, 24(4):363–376, April 1994.

#### Refereed Conference and Workshop Publications

- F. Martincic and L. Schwiebert, “Adaptive Data Collection in Wireless Sensor Networks,” *IFIP Wireless Days 2009 (WD '09)*, December 2009.
- M. Kaur, S. Bhatt, L. Schwiebert and G. Richard, “An Efficient Protocol for Service Discovery in Wireless Sensor Networks,” in *IEEE Workshop on Service Discovery and Composition in Ubiquitous and Pervasive Environments (SUPE '08)*, 6 pages, December 2008.
- D. Ganju and L. Schwiebert, “Using Sound for Monitoring Wireless Sensor Network Behavior,” in *ACM/IFIP/USENIX 8<sup>th</sup> International Middleware Conference (Middleware)*, Demo Session, 2 pages, November 2007.
- Y. Xi, K. Sha, W. Shi, L. Schwiebert, and T. Zhang, “Enforcing Privacy Using Symmetric Random Key-Set in Vehicular Networks,” in *International Symposium on Autonomous Decentralized Systems*, March 2007.
- K. Sha, Y. Xi, L. Schwiebert, and W. Shi, “Adaptive Privacy-Preserving Authentication in Vehicular Networks,” in *Vehiclecomm: The International Workshop on Vehicle Communications and Applications*, October 2006.
- F. Martincic and L. Schwiebert, “Distributed Event Detection in Sensor Networks,” in *International Conference on Systems and Networks Communications (ICSNC)*, paper no. 43, 6 pages, October 2006.
- Y. Xi, L. Schwiebert, and W. Shi, “Preserving Source Location Privacy in Monitoring-Based Wireless Sensor Networks,” in *IPDPS International Workshop on Security in Systems and Networks*, 8 pages, April 2006.
- Q. Tang, N. Tummlala, S. K. S. Gupta, and L. Schwiebert, “TARA: Thermal-Aware Routing Algorithm for Implanted Sensor Networks,” in *IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS)*, pages 206–217, July 2005.
- Q. Tang, S. K. S. Gupta, and L. Schwiebert, “BER Performance Analysis of an On-off Keying based Minimum Energy Coding for Energy Constrained Wireless Sensor Applications,” in *IEEE International Conference on Communications (ICC)*, volume 4, pages 2734–2738, May 2005.
- I. Raicu, L. Schwiebert, S. Fowler, and S. K. S. Gupta, “e3D: An Energy-Efficient Routing Algorithm for Wireless Sensor Networks,” in *IEEE International Conference on Intelligent Sensors, Sensor Networks and Processing (ISSNIP)*, December 2004.
- M. Kumar, L. Schwiebert, and M. Brockmeyer, “Efficient Data Aggregation Middleware for Wireless Sensor Networks,” in *IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)*, pages 579–581, October 2004.
- W. Shi, S. Sellamuthu, K. Sha, and L. Schwiebert, “QueryAgent: A General Query Processing Tool for Sensor Networks,” in *2004 ICPP Workshop on Ad hoc and Sensor Networks*, pages 488–495, August 2004.
- K. Jamshaid and L. Schwiebert, “SEKEN (Secure and Efficient Key Exchange for sensor Networks),” in *23<sup>rd</sup> IEEE International Performance, Computing, and Communications Conference (IPCCC)*, pages 415–422, April 2004.

- A. Salhieh and L. Schwiebert, "Evaluation of Cartesian-based Routing Metrics for Wireless Sensor Networks," in *Communication Networks and Distributed Systems Modeling and Simulation (CNDS)*, 6 pages, January 2004.
- X. Duo, M. Dong, F. Fotouhi, and L. Schwiebert, "Hierarchical Search and Browsing of Face Image Databases," in *Proceedings of Artificial Neural Networks In Engineering (ANNIE)*, volume 13, pages 601-606, November 2003.
- M. Kochhal, L. Schwiebert, and S. K. S. Gupta, "Role-based Hierarchical Self Organization for Ad hoc Wireless Sensor Networks," in *ACM International Workshop on Wireless Sensor Networks and Applications (WSNA)*, pages 98-107, September 2003.
- S. K. S. Gupta, S. Lalwani, Y. Prakash, E. Elsharawy, and L. Schwiebert, "Towards a Propagation Model for Wireless Biomedical Applications," in *IEEE International Conference on Communications (ICC)*, volume 3, pages 1993-1997, May 2003.
- V. Annamalai, S. K. S. Gupta, and L. Schwiebert, "On Tree-Based Convergecasting in Wireless Sensor Networks," in *IEEE Wireless Communications and Networking Conference (WCNC)*, volume 3, pages 1942-1947, March 2003.
- C. Jiao, L. Schwiebert, and B. Xu, "On Modeling the Packet Error Statistics in Bursty Channels," in *27<sup>th</sup> Annual IEEE Conference on Local Computer Networks (LCN)*, pages 534-541, November 2002.
- A. Salhieh and L. Schwiebert, "Power Aware Metrics for Wireless Sensor Networks," in *14<sup>th</sup> IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS)*, pages 326-331, November 2002.
- L. Schwiebert, S. K. S. Gupta, P. Siy, G. Auner, G. Abrams, R. Iezzi, and P. McAllister, "A Biomedical Smart Sensor for the Visually Impaired," in *IEEE Sensors 2002*, paper no. 62-2, 6 pages, June 2002.
- M. Kochhal, L. Schwiebert, S. K. S. Gupta, and C. Jiao, "An Efficient Core Migration Protocol for QoS in Mobile Ad Hoc Networks," in *21<sup>st</sup> IEEE International Performance, Computing, and Communications Conference (IPCCC)*, pages 387-391, April 2002.
- I. Raicu, O. Richter, L. Schwiebert, and S. Zeadally, "Using Wireless Sensor Networks to Narrow the Gap between Low-Level Information and Context-Awareness," in *17<sup>th</sup> International Conference on Computers and Their Applications (CATA 2002)*, pages 209-214, April 2002.
- C. Jiao, L. Schwiebert, and G. Richard, "Adaptive Header Compression for Wireless Networks," in *26<sup>th</sup> Annual IEEE Conference on Local Computer Networks (LCN)*, pages 377-378, November 2001.
- C. Jiao and L. Schwiebert, "Error Masking Probability of 1's Complement Checksums," in *10<sup>th</sup> IEEE International Conference on Computer Communications and Networks*, pages 505-510, October 2001.
- V. Shankar, A. Natarajan, S. K. S. Gupta, and L. Schwiebert, "Energy-efficient Protocols for Wireless Communication in Biosensor Networks," in *12<sup>th</sup> IEEE International Symposium on Personal, Indoor and Mobile Radio Communications*, pages D-114-D-118, October 2001.
- A. Salhieh, J. Weinmann, M. Kochhal, and L. Schwiebert, "Power Efficient Topologies for Wireless Sensor Networks," in *30<sup>th</sup> International Conference on Parallel Processing*, pages 156-163, September 2001.
- L. Schwiebert, S. K. S. Gupta, J. Weinmann, A. Salhieh, M. Kochhal, and G. Auner, "Research Challenges in Wireless Networks of Biomedical Sensors," in *MobiCom '01*, pages 151-165, July 2001.
- L. Y. Wang and L. Schwiebert, "Robust Control and Rate Coordination for Efficiency and Fairness in ABR Traffic with Explicit Rate Marking," in *2000 American Control Conference*, pages 1975-1979, June 2000.
- L. Schwiebert, "A Performance Evaluation of Fully Adaptive Wormhole Routing including Selection Function Choice," in *19<sup>th</sup> IEEE International Performance, Computing, and Communications Conference (IPCCC)*, pages 117-123, February 2000.

- F. Adelstein, G. Richard, and L. Schwiebert, "Building Dynamic Multicast Trees in Mobile Networks," in *ICPP Workshop on Group Communication*, pages 17–22, September 1999.
- F. Adelstein, F. Hosch, G. Richard, and L. Schwiebert, "Bessie: Portable Generation of Network Topologies for Simulation," in *IEEE 7<sup>th</sup> International Conference on Computer Communications and Networks*, pages 787–792, October 1998.
- G. W. Auner, P. Siy, R. Naik, L. Wenger, G.-Y. Liu, and L. Schwiebert, "A Combined Research/Educational Curriculum in Smart Sensors and Integrated Devices," in *International Conference on Engineering Education*, paper no. 442, 7 pages, August 1998.
- L. Schwiebert and D. N. Jayasimha, "On Measuring the Performance of Adaptive Wormhole Routing," in *4<sup>th</sup> International Conference on High Performance Computing*, pages 336–341, December 1997.
- S. Sasi, L. Schwiebert, and J. Bedi, "Wavelet Packet Transform and Neuro-Fuzzy Approach to Handwritten Character Recognition," in *Signal and Image Processing Conference*, pages 129–133, December 1997.
- L. Schwiebert and R. Bell, "The Impact of Output Selection Function Choice on the Performance of Adaptive Wormhole Routing," in *10<sup>th</sup> International Conference on Parallel and Distributed Computing Systems*, pages 539–544, October 1997.
- S. Sasi, L. Schwiebert, and J. Bedi, "Wavelet Packet Transform and Fuzzy Logic Approach for Handwritten Character Recognition," in *IEEE Workshop on Nonlinear Signal and Image Processing*, September 1997.
- L. Schwiebert, "Deadlock-Free Oblivious Wormhole Routing with Cyclic Dependencies," in *ACM Symposium on Parallel Algorithms and Architectures*, pages 149–158, June 1997.
- D. N. Jayasimha, D. Manivannan, J. A. May, L. Schwiebert, and S. L. Hary, "A Foundation for Designing Deadlock-free Routing Algorithms in Wormhole Networks," in *Symposium on Parallel and Distributed Processing*, pages 190–197, October 1996.
- L. Schwiebert and D. N. Jayasimha, "A Universal Proof Technique for Deadlock-Free Routing in Interconnection Networks," in *ACM Symposium on Parallel Algorithms and Architectures*, pages 175–184, July 1995.
- L. Schwiebert and D. N. Jayasimha, "Optimal Fully Adaptive Wormhole Routing for Meshes," in *Supercomputing '93*, pages 782–791, November 1993.
- L. Schwiebert and D. N. Jayasimha, "Mapping to Reduce Contention in Multiprocessor Architectures," in *IEEE 7<sup>th</sup> International Parallel Processing Symposium*, pages 248–253, April 1993.

#### Conference Tutorials

- L. Schwiebert and G. Richard, "Introduction to Mobile Computing I," *20<sup>th</sup> International Performance, Computing, and Communications Conference*, April 2001.
- G. Richard and L. Schwiebert, "Introduction to Mobile Computing II," *20<sup>th</sup> International Performance, Computing, and Communications Conference*, April 2001.

#### Poster Presentations

- L. Buis, N. T. Artinian, L. Schwiebert, H. Yarandi, C. John, L. Hirzel, and L. Torres, "Developing a SMS medication reminder system to reduce health disparities in African Americans with uncontrolled hypertension," in *2011 mHealth Summit*, December 2011.
- F. Martincic and L. Schwiebert, "Distributed Data Collection in Sensor Networks," in *9<sup>th</sup> ACM/IEEE International Workshop on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM)*, October 2006.

- F. Martincic and L. Schwiebert, "Perimeter Determination in Sensor Networks," in *Third International Conference on Networked Sensing Systems (INSS)*, June 2006.
- L. Schwiebert, S. K. S. Gupta, and G. W. Auner, "Networking Biomedical Smart Sensors: An Artificial Vision Prosthesis," *NSF ANIR PI Workshop*, January 2003.
- C. Jiao and L. Schwiebert, "Analysis of Header Compression for Satellite Communications," *5<sup>th</sup> Annual Michigan Space Grant Consortium Conference*, September 2000.
- L. Schwiebert and D. N. Jayasimha, "Mapping Parallel Computations to Multiprocessor Architectures Considering the Effects of Communication," *21<sup>st</sup> International Conference on Parallel Processing*, August 1992.

## GRANTS

### Federal

- L. Buis, N. Artinian, L. Schwiebert, F. Fotouhi, and H. Yarandi, "Text Messaging to Improve Hypertension Medication Adherence in African Americans." September 2010 – September 2012, \$297,224, funded by AHRQ.
- L. Schwiebert and V. K. Prasanna, "Education and Workforce: Student Travel Awards for DCOSS 2005; June 30 - July 1, 2005; Marina del Rey, CA." April 2005 – March 2006, \$15,000, funded by NSF.
- L. Schwiebert, P. Siy, R. Iezzi, S. Gupta, and G. W. Auner, "ITR: Wireless Networking Solutions for Smart Sensor Biomedical Applications." September 2000 – September 2004, \$1,797,351, funded by NSF.
- L. Schwiebert, "REU Supplemental Award for ITR: Wireless Networking Solutions for Smart Sensor Biomedical Applications." May 2004 – August 2004, \$6,000, funded by NSF.
- L. Schwiebert, "REU Supplemental Award for ITR: Wireless Networking Solutions for Smart Sensor Biomedical Applications." May 2003 – August 2003, \$11,375, funded by NSF.
- L. Schwiebert, "REU Supplemental Award for ITR: Wireless Networking Solutions for Smart Sensor Biomedical Applications." May 2002 – August 2002, \$11,375, funded by NSF.
- G. W. Auner, G. Shreve, and L. Schwiebert, "Development of Remote Sensor Microsystems for Environmental Monitoring." September 2000 – August 2002, \$180,000, funded by NSF.
- G. W. Auner, G.-Y. Liu, R. Naik, P. Siy, L. E. Wenger, and L. Schwiebert, "IGERT FORMAL PROPOSAL: Smart Sensors and Integrated Devices." July 1998 – June 2003, \$2,628,000, funded by NSF.
- V. Chaudhary, L. Schwiebert, and C.-Z. Xu, "High Performance Computing on an ATM-Connected Cluster of Symmetric Multiprocessors." January, 1998 – December, 1998, \$102,004, funded by NSF (with \$100,000 match from WSU).
- V. Chaudhary, L. Schwiebert, and C.-Z. Xu, "REU Site for Parallel and Distributed Applications." June, 1997 – May, 2000, \$224,100, funded by NSF.

### State

- L. Schwiebert, "Improving Network Protocols for Efficient Satellite Communication." June 1999 – May 2000, \$4,000, funded by the Michigan Space Grant Consortium (with \$4,000 match from WSU).

## Foundations and Corporations

- L. Schwiebert, "Equipment Grant Proposal for Computer Security Research and Graduate Teaching." February 2010, funded by NVIDIA Corporation, in-kind donation valued at \$1,250.
- G. W. Auner, L. Schwiebert, and P. Siy, "From the Atom to the Eye: Development of Advanced Microsystems for Visual Prosthesis." May 2000 – April 2001, funded by the Kresge Eye Institute, \$190,360.
- K. Arnold, V. Sinha, R. Abrou, S. Gumma, J. Woodyard, and L. Schwiebert, "IEEE Student Branch Center of Excellence." May 1998, \$4,700 (with \$1,500 match), funded by the IEEE Foundation.

## University

- J. Potoff and L. Schwiebert, "Development of a High Performance GPU Optimized Monte Carlo Simulation Engine." June, 2011 – December, 2012, \$94,050.
- M. Khan, R. Bell, and L. Schwiebert, "Undergraduate Research Grant." May, 1998 – December, 1998, \$1,414.
- G. W. Auner *et al.*, "Smart Sensors and Integrated Devices Research Excellence Award." January 1998 – December 2003, \$1,600,000. (Senior participant and Group Leader for interface technology.)
- V. Chaudhary, L. Schwiebert, and C.-Z. Xu, "Supplemental Research Equipment Grant." March, 1997, \$58,710.

## Theses Advised

- Ph.D. Thesis: Manish Kochhal, "Unified Role-Assignment Framework for Wireless Sensor Networks," May 2010.
- Ph.D. Thesis: Ayad Salhieh, "Energy Efficient Communication in Stationary Wireless Sensor Networks," January 2004.
- Ph.D. Thesis: Changli Jiao, "Wireless Data Transmission: Error Characterization and Performance Analysis," August 2002.
- Ph.D. Thesis: Daniel Guzmán, "A Dual Architecture Approach for Vehicle Communication Control: An Accommodated Device Gateway and Intelligent Data Bus, Signal Circuitry Analysis and Message Security Protocols," December 2001.
- Master's Thesis: Santhi Movva, "An Efficient Multiple Pattern Matching Algorithm on the Graphics Processing Unit for Digital Forensics," November 2008.
- Master's Thesis: Shilpa Bhatt, "An RPC Facility for Service Discovery on Wireless Sensor Networks," August 2008.
- Master's Thesis: Deeksha Ganju, "Using Sound for Monitoring Wireless Sensor Network Behavior," September 2007.
- Master's Thesis: Mandeep Kaur, "Evaluation of Service Discovery in Wireless Sensor Networks," February 2007.
- Master's Thesis: Mukul Kumar, "A Consensus Protocol for Wireless Sensor Networks," August 2003.
- Master's Thesis: Manish Kochhal, "An Efficient Core Migration Protocol for Providing Quality of Service (QoS) in Wireless Mobile Ad Hoc Networks (MANET)," September 2002.
- Master's Thesis: Kamran Jamshaid, "A Framework for Implementing Security in Wireless Sensor Networks," April 2002.
- Master's Thesis: Jennifer Weinmann, "Challenges in Wireless Networks of Biomedical Sensors," March 2001.
- Master's Thesis: Sanjay Mazumder, "A Fast Acknowledgment Protocol for Reliable ATM Multicasting," May 1997.

## ACADEMIC HONORS and AWARDS

Recipient	2002 College of Science Teaching Award
Recipient	2000 College of Engineering Outstanding Faculty Teaching Award
Recipient	1999 College of Engineering Outstanding Faculty Teaching Award
Recipient	1998 College of Engineering Outstanding Faculty Teaching Award
Recipient	1997 College of Engineering Excellence in Teaching Award
Recipient	1997 College of Engineering Outstanding Faculty Teaching Award
Fellow	Ohio State University Presidential Fellowship (July 1994 – June 1995)
Member	Tau Beta Pi
Member	Upsilon Pi Epsilon (Honor Society in the Computing Sciences)

## PROFESSIONAL AFFILIATIONS

Institute of Electrical and Electronics Engineers (IEEE)  
IEEE Computer Society  
Association for Computing Machinery (ACM)  
ACM Special Interest Group on Algorithms and Computation Theory (SIGACT)

## EDITORIAL BOARDS

- Associate Editor for IEEE Transactions on Computers, October 2002 – December 2006.

## CONFERENCE PROGRAM COMMITTEES

Program Vice-Chair	2008 IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC)
Program Co-Chair	2008 International Conference on Body Area Networks (BodyNets)
Advisory Committee	2007 International Workshop on Wireless Mesh and Ad Hoc Networks (WiMAN)
Student Scholarships Chair	2006 IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS)
Student Scholarships Chair	2005 IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS)
Program Committee	2011 Third International Conference on Ad Hoc Networks (AdHocNets)
Program Committee	2011 International Conference on Engineering Education (ICEE)
Program Committee	2011 International Workshop on Privacy, Security and Trust in Mobile and Wireless Systems (MobilPS)
Program Committee	2011 Wireless Sensor Networks - Theory and Practice (WSN)
Program Committee	2011 IEEE International Conference on Computer Communications and Networks (SEP track)
Program Committee	2010 IEEE Globecom Workshop on Ubiquitous Computing and Networks (UbiCoNet)
Program Committee	2011 IEEE Consumer Communications and Networking Conference (Work-in-Progress and Position Papers)
Program Committee	2010 Second International Conference on Ad Hoc Networks (AdHocNets)
Program Committee	2010 IEEE Consumer Communications and Networking Conference (Work-in-Progress and Position Papers)
Program Committee	2009 First International Conference on Ad Hoc Networks (AdHocNets)
Program Committee	2008 Int'l Workshop on Sensor Networks and Applications (SNA)
Program Committee	2008 IEEE Int'l Conf. on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC)
Program Committee	2007 Int'l Workshop on Distributed Autonomous Network Management Systems (DANMS)
Program Committee	2007 IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC)
Program Committee	2007 International Performance, Computing, and Communications Conference (IPCCC)
Program Committee	2006 International Conference on Pervasive Computing Technologies for Healthcare
Program Committee	2006 IEEE Int'l Conf. on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC)
Program Committee	2005 International Conference on High Performance Computing (HiPC)

Program Committee	2005 International Workshop on Mobile Distributed Computing (MDC)
Program Committee	2005 International Workshop on Wireless Ad hoc Networking (WWAN)
Program Committee	2005 International Performance, Computing, and Communications Conference (IPCCC)
Program Committee	2004 IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)
Program Committee	2004 International Workshop on Wireless Ad hoc Networking (WWAN)
Program Committee	2004 International Conference on Distributed Computing Systems (ICDCS)
Program Committee	2004 ICPP Workshop on Mobile and Wireless Networking (MWN)
Program Committee	2004 International Performance, Computing, and Communications Conference (IPCCC)
Program Committee	2003 International Conference on Parallel Processing (ICPP)
Program Committee	2003 ICPP Workshop on Wireless Security and Privacy (WiSPr)
Program Committee	2003 ICDCS Workshop on Mobile and Wireless Networks (MWN)
Program Committee	2002 MobiCom Workshop on Wireless Sensor Networks and Applications (WSNA)
Program Committee	2001 ICDCS Workshop on Wireless Networks and Mobile Computing
Program Committee	2000 ICPP International Workshop on Pervasive Computing (IWPC)
Program Committee	1999 ICPP International Workshop on Group Communication (IWGC)
Program Committee	1998 International Conference on Parallel Processing (ICPP)

## GRANT PROPOSAL REVIEWING

- Numerous National Science Foundation panels
- National Institutes of Health
- National Aeronautics and Space Administration
- European Science Foundation
- Environmental Protection Agency – Small Business Innovative Research Program
- U.S. Civilian Research and Development Foundation for the Independent States of the Former Soviet Union (CRDF)
- Canadian Foundation for Innovation
- Member of the Peer Review College of the Danish Council for Strategic Research

## JOURNAL and CONFERENCE REFEREEING

IEEE Trans. on Computers, IEEE Trans. on Parallel and Distributed Systems, IEEE Trans. on Mobile Computing, IEEE Trans. on Information Technology in BioMedicine, IEEE Computer Magazine, Journal of Parallel and Distributed Computing, SIAM Journal on Computing, Distributed Computing, Networks, IBM Journal of Research and Development, The Computer Journal, Performance Evaluation, Communications of the ACM, Mobile Computing and Communications Review, ACM Mobile Networks and Applications (MONET), IEE Proceedings – Computers and Digital Techniques, IEEE Transactions on Education, IEEE Communication Letters, IEEE Design & Test, IEEE Network Magazine, Computer Architecture Letters, IEEE Personal Communications – Special Issue on Pervasive Computing, International Journal of Parallel and Distributed Systems and Networks, International Journal of Communications, Network and System Sciences, Microprocessors and Microsystems, International Journal of Sensor Networks, Wireless Communications and Mobile Computing Journal, Journal of Computers and Electrical Engineering, Information Fusion, EURASIP Journal on Wireless Communications and Networking, Parallel and Distributed Computing Practices, Journal of Zhejiang University SCIENCE, International Journal of Parallel, Emergent, and Distributed Systems; Int'l Conf. on Parallel Processing, IEEE Int'l Parallel Processing Symposium, Int'l Parallel and Distributed Processing Symposium, Int'l Conf. on Parallel and Distributed Systems, Int'l Conf. on Communications, Int'l Symposium on High-Performance Computer Architecture, Int'l Conf. on Supercomputing, Int'l Conf. on High Performance

Computing, International Performance, Computing, and Communications Conference, Wireless Communications and Networking Conference, International Conference on Wireless Communications and Signal Processing, International Conference on Parallel and Distributed Computing Systems, ICDCS Workshop on Wireless Networks and Mobile Computing, International Conference on Software, Telecommunications and Computer Networks, International Conference on Mobile Ad-hoc Sensor Systems, International Conference on Engineering Education.

## UNIVERSITY SERVICE

Adviser	Wayne State University ACM Student Branch (2001–2002)
Counselor	Wayne State University IEEE Student Branch (1998–2000)
Group Leader	GTA Orientation Microteaching Session (1999–2001, 2003, 2006–2009)
Presenter	Abstract Writing Workshop hosted by the Graduate School (2010)
Chair	CSC Department Graduate Committee (2002–2010)
Member	CSC Department Chair Review Committee (2007–2008)
Member	CSC Department Promotion and Tenure Committee (2001–2010)
Member	CSC Department Personnel and Salary Committee (2001–2005, 2007–2008)
Member	CSC Department Graduate Committee (2000–2002)
Member	CSC Department Faculty Search Committee (2001–2002, 2004, 2007–2008)
Member	CSC Department Chair Search Committee (2000–2001)
Co-Chair	University Research Grant Committee (2002–2003)
Member	University Sabbatical Leaves Committee (2008–2009)
Member	Graduate School Dean Search Committee (2008–2009)
Member	Graduate Council (2008–2010)
Member	Executive Committee of the Graduate Council (2009–2010)
Member	Outstanding Graduate Mentor Award Selection Committee (2007)
Member	Centers and Institutes Advisory Committee (CIAC-I) (2006–2008)
Member	University Academic Senate (2005–2006)
Member	University Academic Senate Budget Committee (2005–2006)
Member	University Scholarships and Fellowships Review Panel (2005)
Member	University Career Development Chair Selection Committee (2002–2003)
Member	University Student Elections Committee (1997–2005)
Member	University Athletic Scholarship Hearing Board (2002)
Member	University Research Grant Committee (2001–2002)
Member	Cray Research/Wayne State University Grant Committee (1996)
Member	CLAS Technology Committee (2008)
Member	College of Engineering Faculty Assembly Executive Committee (1998–2000)
Member	College of Engineering Faculty Budget Committee (1997–99)
Member	College of Engineering Excellence in Teaching Awards Committee (1996, 1998)
Member	College of Engineering Computer Advisory Committee (1995–99)
Member	College of Engineering Library Committee (1996–97)
Member	ECE Department Chair Search Committee (1999–2000)
Member	ECE Department Faculty Search Committee (1996–98, 2000)
Member	ECE Department Salary – Tenure & Promotion Committee (1997–2000)
Member	ECE Department Graduate Committee (1995–2000)
Member	ECE Department Recruitment Committee (1996–97)
Member	ECE Department Undergraduate Committee (1995–2000)
Co-Chair	ECE Department Undergraduate Committee (1999–2000)
Chair	ECE Department Undergraduate Laboratory Committee (1995–98)