

Jie Wu

Professor

Department of Computer Science and Engineering
Florida Atlantic University
Boca Raton, FL 33431

Office: (561)297-3491

Fax: (561)297-2800

Home: (561)852-9050

Email: jie@cse.fau.edu

<http://www.cse.fau.edu/~jie>

1 Educational Background

Ph.D. in Computer Engineering, Florida Atlantic University, Boca Raton, FL, 8/89

M.S. in Computer Science, Shanghai University of Science and Technology (now Shanghai University), Shanghai, P. R. of China, 7/85

B.S. in Computer Engineering, Shanghai University of Science and Technology, Shanghai, P. R. of China, 7/82

2 Employment History

| | |
|---|--------------|
| Professor, Florida Atlantic University | 8/98-present |
| Associate Professor, Florida Atlantic University | 8/94-7/98 |
| Assistant Professor, Florida Atlantic University | 8/89-7/94 |
| Lecturer, Shanghai University of Science and Technology | 7/85-1/87 |

3 Instructional Experience

3.1 Graduate Level Courses (11, including 7 new courses)

Ad hoc Networks, Internet Routing Protocols, Design and Analysis of Parallel Algorithms, Distributed Algorithms, Distributed System Design, Formal Specification Methods, Introduction to Parallel Computers, Real-Time Software, Fault-Tolerant System Design, Concurrent Processing, and Analysis of Algorithms.

3.2 Undergraduate Level Courses (10)

Design and Analysis of Algorithms, Data Structure and Algorithm Design Using C, Introduction to Computers, Data Structure and Algorithm Design Using C++, Introduction to Logic Design, Structured Computer Architecture, Switching Systems, Senior Project, Senior Seminar, and Programming Methodologies (Shanghai University).

3.3 Theses and Dissertations

(Ph.D. Dissertations: 6 completed and 8 in progress)

- W. Lou, “Broadcasting in Ad Hoc Wireless Networks,” (Summer 2004) (Assistant Professor at Hong Kong Polytechnic University, Hong Kong)
- Z. Jiang, “Fault-Tolerant Routing in Mesh-Connected Networks with Dynamic Faults,” (Summer 2002) (Assistant Professor at West Chester University, Pennsylvania)
- X. Chen, “Fault-Tolerant Routing in 2-D and 3-D Meshes,” (Summer 1999) (Assistant Professor at Texas State University, Texas)
- P. Goyal, “Cube-Connected Cubes Multicomputers,” (Fall 1998)
- K. Huang, “The Balanced Hypercube and Its Applications,” (Summer 1997)
- Y. Wang, “A Uniform Hardware and Software Fault-Tolerant Model,” (Fall 1995)
- L. Brown, “Fault-Tolerant Distributed Shared Memories,” (Fall 1993)
- T. Smith, “Performance Enhancement of RAID Through Compression,” (in progress)
- F. Dai, “Energy-Efficient Design in Ad Hoc Wireless Networks,” (in progress)
- I. Jawhar, “QoS Routing in Ad Hoc Wireless Networks,” (in progress)
- S. Yang, “Multicasting Through Overlay,” (in progress)
- M. Lu, “Coverage Issues in Sensor Networks,” (in progress)
- B. Wu, “Key Management in Secure Ad Hoc Networks,” (in progress)
- X. Li, “Peer-to-Peer Computing,” (in progress)
- J. Chen, “Securing Wireless Networks,” (in progress)

(MS Theses: 20 completed and 12 in progress)

4 Research Interests

Mobile Computing and Wireless Networks

Routing Protocols

Distributed Computing

Fault-Tolerant Systems

Parallel Processing

Interconnections Networks

Others: Computer Architecture, Petri Net Applications, Computer Security, and Software Engineering

4.1 Refereed Journals

(selected from 98 journal publications)

1. F. Dai and J. Wu, "Efficient Broadcasting with Guaranteed Coverage in Mobile Ad Hoc Networks," accepted to appear in *IEEE Transactions on Mobile Computing*.
2. J. Wu, F. Gao, Z. Li, and Y. Min, "Optimal and Reliable Communication in Hypercubes using Extended Safety Vectors," accepted to appear in *IEEE Transactions on Reliability*.
3. J. Wu and L. Sheng, "Deadlock-Free Routing in Irregular Networks Using Prefix Routing," accepted to appear in *Parallel Processing Letters*.
4. J. Wu and Z. Jiang, "On Constructing the Minimum Orthogonal Convex Polygon in 2-D Faulty Meshes," accepted to appear in *IEEE Transactions on Reliability*.
5. J. Wu and Z. Jiang, "Extended Minimal Routing in 2D meshes with Faulty Blocks," accepted to appear in *International Journal of High Performance Computing and Networking*.
6. J. Wu and L. Sheng, "Deadlock-Free Multicasting in Irregular Networks Using Prefix Routing," accepted to appear in *The Journal of Supercomputing*.
7. F. Dai, Q. Dai, and J. Wu, "Power Efficient Routing Trees for Ad Hoc Wireless Networks using Directional Antenna," accepted to appear in *International Journal of Ad Hoc Networks*.
8. M. Cardei and J. Wu, "Energy-Efficient Coverage Problems in Wireless Ad Hoc Sensor Networks," accepted to appear in *Journal of Computer Communications on Sensor Networks*.
9. M. Agarwal, J. H. Cho, L. X. Gao, and J. Wu, "Energy Efficient Broadcast in Wireless Ad Hoc Networks with Hitch-hiking," accepted to appear in *ACM/Kluwer MONET*, a special issue on *Energy Constraints and Lifetime Performance in Wireless Sensor Networks*.
10. F. Dai and J. Wu, "A Highly Reliable Multi-Path Routing Scheme for Ad Hoc Wireless Networks" accepted to appear in *International Journal of Parallel Algorithms and Applications*.
11. I. Jawhar and J. Wu, "Race-Free Resource allocation for QoS Support in Wireless Networks" accepted to appear in *Ad Hoc & Sensor Wireless Networks: An International Journal*.
12. F. Dai and J. Wu, "Performance Analysis of Broadcast Protocols in Ad Hoc Networks Based on Self-Pruning," *IEEE Transactions on Parallel and Distributed Systems*, Vol.15, No.11, Nov. 2004, 1027-1040.
13. J. Wu and F. Dai, "A Generic Distributed Broadcast Scheme in Ad Hoc Wireless Networks," *IEEE Transactions on Computers*, Vol. 15, No. 10, Oct. 2004, 908-920.

14. F. Dai and J. Wu, "An Extended Localized Algorithm for Connected Dominating Set Formation in Ad Hoc Wireless Networks" *IEEE Transactions on Parallel and Distributed Systems*, Vol. 53, No. 10, Oct. 2004, 1343-1354.
15. J. Wu and F. Dai, "Mobility Control and Its Applications in Mobile Ad Hoc Networks," *IEEE Network*, Vol.18, No.4, July/Aug. 2004, 30-35.
16. C. -S. Leung, J. Sum, H. Shen, J. Wu, and G. H. Young, "Analysis and Design of an Agent Searching Algorithm for E-marketplaces," *Journal of Cluster Computing*, 7, 2004, 85-90.
17. J. Shen, L. Sheng, and J. Wu, "Searching for Sorted Sequences of Kings in Tournaments," *SIAM Journal of Computing*, 32, 5, 2003, 1201-1209.
18. J. Wu, "Optimal Broadcasting in Injured Hypercubes Using Directed Safety Levels," *Journal of Parallel and Distributed Computing*, 63, 2003, 815-826.
19. J. Wu, F. Dai, X. Lin, J. Cao, and W. Jia, "An Extended Fault-Tolerant Link-State Routing Protocol in the Internet," *IEEE Transactions on Computers*. Vol. 52, No. 10, Oct. 2003, 1298-1311.
20. J. Wu, "A Fault-Tolerant and Deadlock-Free Routing Protocol in 2-D Meshes Based on Odd-Even Turn Model," *IEEE Transactions on Computers*, Vol 52, No. 9, Sept. 2003, 1154-1169.
21. D. Xiang, A. Chen, and J. Wu, "Reliable Broadcasting in Wormhole-Routed Hypercube-Connected Networks using Local Safety Information," *IEEE Transactions on Reliability*, 52, 2, June 2003, 245-256.
22. Z. Jiang and J. Wu, "Fault-Tolerant Broadcasting in 2-D Wormhole-Routed Meshes," *The Journal of Supercomputing*, Vol. 25, 2003, 255-275.
23. J. Wu and S. Olariu, "On Cost-Optimal Merge of Two Intransitive Sorted Sequences," *International Journal of Foundations of Computer Science*, Vol 14, No. 1, Feb. 2003, 99-106.
24. J. Sum, H. Shen, J. Wu, C. -S. Leung, and G. Young, "Analysis on Extended Ant Routing Algorithms for Network Routing and Management," *The Journal of Supercomputing*, 24, 2003, 327-340.
25. J. Wu, B. Wu, and I. Stojmenovic, "Power-Aware Broadcasting and Activity Scheduling in Ad Hoc Wireless Networks Using Connected Dominating Sets," *Wireless Communications and Mobile Computing (WCMC)*, a special issue on *Research in Ad Hoc Networking, Smart Sensing, and Pervasive Computing*, 3, 4, June 2003, 425-438.
26. J. Wu and F. Dai, "Broadcasting in Ad Hoc Networks Based on Self-Pruning," *International Journal of Foundations of Computer Science*, Vol. 14, No. 2, April 2003, 201-221.
27. J. Wu and F. Dai, "QoS Routing in Hypercube Multicomputers," *Parallel Processing Letters*, Vol. 13, No. 1, March 2003, 43-52.

28. J. Wu and W. Lou, "Forward Node Set Based Broadcast in Clustered Mobile Ad Hoc Networks," *Wireless Communications and Mobile Computing (WCNC)*, a special issue on *Algorithmic, Geometric, Graph, Combinatorial, and Vector Aspects of Wireless Networks and Mobile Computing*, Vol. 3, No. 2, March 2003, 141-154.
29. L. Sheng and J. Wu, "Maximum-Shortest-Path (MSP) is not Optimal for a General $N \times N$ torus," *IEEE Transactions on Reliability*, 52, 1, March 2003, 22-25.
30. J. Wu, "An Extended Dynamic Source Routing Scheme in Ad Hoc Wireless Networks," *Telecommunication Systems*, a special issue on *Wireless Networks and Mobile Computing*, 22, 1-4, 2003, 61-75.
31. W. Lou and J. Wu, "On Reducing Broadcast Redundancy in Ad Hoc Wireless Networks," *IEEE Transactions on Mobile Computing*, Vol. 1, No. 2, April-June 2002, 111-122.
32. J. Wu, "Extended Dominating-Set-Based Routing in Ad Hoc Wireless Networks with Unidirectional Links," *IEEE Transactions on Parallel and Distributed Systems*, 13, 9, Sept. 2002, 866-881.
33. J. Wu, "A Distributed Formulation of Smallest Faulty Orthogonal Convex Polygons in 2-D Meshes," *Journal of Parallel and Distributed Computing*, Vol. 62, 2002, 1168-1185.
34. J. Wu, "A Fault-Tolerant Adaptive and Minimal Routing Scheme in n -D Meshes," *The Computer Journal*, Vol. 45, No. 3, 2002, 349-363.
35. S. Datta, I. Stojmenovic, and J. Wu, "Internal Node and Shortcut based Routing with Guaranteed Delivery in Wireless Networks," *Cluster Computing Journal*, a special issue on *Mobile Ad-hoc Networking*, Vol 5, No. 2, April 2002, 169-178.
36. F. He and J. Wu, "An Efficient Parallel Implementation of the Everglades Landscape Fire Model Using Checkpointing," *Parallel Computing*, Vol. 28, 2002, 65-82.
37. J. Wu and F. Dai, "On Locality of Dominating Set in Ad Hoc Networks with Switch-On/Off Operations," *Journal of Interconnection Networks*, a special issue on *Algorithms for Networks*, Vol. 3, No. 3 & 4, Sept.& Dec. 2002, 129-147.
38. J. Wu, F. Dai, M. Gao, and I. Stojmenovic "On Calculating Power-Aware Connected Dominating Set for Efficient Routing in Ad Hoc Wireless Networks," *Journal of Communications and Networks*, Vol. 5, No. 2, March 2002, 169-178.
39. J. Wu and L. Sheng, "An Efficient Sorting Algorithm for a Sequence of Kings in a Tournament," *Information Processing Letters*, 79, 2001, 297-299.
40. J. Wu and H. Li, "A Dominating Set Based Routing Scheme in Ad Hoc Wireless Networks," *Telecommunication Systems*, a special issue on *Wireless Networks*, Vol 18, No. 1-3, 2001, 13-36.
41. J. Wu and Y. Yang, "The Postal Network: A Recursive Network for Parameterized Communication Model," *The Journal of Supercomputing*, 19, 2001, 141-159.

42. J. Wu, "On Finding a Hamiltonian Path in a Tournament Using Semi-Heap," *Parallel Processing Letters*, Vol. 10, No. 4, 2000, 279-294.
43. L. Sheng and J. Wu, "A Note on 'A Tight Lower Bound on the Number of Channels Required for Deadlock-Free Wormhole Routing'," *IEEE Transactions on Computers*, 49, (9), Sept. 2000, 1005.
44. S. Cang and J. Wu, "Time-Step Optimal Broadcasting in 3-D Meshes with Minimum Total Communication Distance," *Journal of Parallel and Distributed Computing*, 60, 2000, 966-997.
45. S. Q. Zheng and J. Wu, "Dual of a Complete Graph as an Interconnection Network," *Journal of Parallel and Distributed Computing*, 60, 2000, 1028-1046.
46. J. Wu, "Fault-Tolerant Adaptive and Minimal Routing in Mesh-Connected Multicomputers Using Extended Safety Levels," *IEEE Transactions on Parallel and Distributed Systems*, 11, (2), Feb. 2000, 149-159.
47. A. C. Wynn and J. Wu, "The Effect of Compression on Performance in a Demand Paging System," *Journal of Systems and Software*, 30, 2000, 151-170.
48. J. Wu, "Maximum-Shortest-Path (MSP): An Optimal Routing Policy for Mesh-Connected Multicomputers," *IEEE Transactions on Reliability*, 48, (3), Sept. 1999, 247-255.
49. J. Wu and G. Guo, "Fault-Tolerant Measures for m -ary n -dimensional Hypercubes Based on Forbidden Faulty Sets," *IEEE Transactions on Computers*, 47, (8), Aug. 1998, 883-887.
50. J. Wu, E. B. Fernandez, and Y. Luo, "Embedding of Binomial Trees in Hypercubes with Link Faults," *Journal of Parallel and Distributed Computing*, Vol. 54, 1998, 59-74.
51. J. Wu, "Fault-Tolerant Communication in Multiple Bus Systems," *Parallel Processing Letters*, a special issue on *Computing on Bus-Based Architectures*. Vol. 8, No. 3, 1998, 307-320,
52. J. Wu, E. B. Fernandez, and D. Dai, "Fault-Secure Scheduling," *The Computer Journal*, 41, (4), 1998, 207-222.
53. J. Wu, "Adaptive Fault-Tolerant Routing in Cube-Based Multicomputers Using Safety Vectors," *IEEE Transactions on Parallel and Distributed Systems*, 9, (4), April 1998, 321-334.
54. J. Wu, "Extended Fibonacci Cubes," *IEEE Transactions on Parallel and Distributed Systems*, 8, (12), Dec. 1997, 1203-1210.
55. J. Wu and K. Huang, "The Balanced Hypercube: A Cube-based System for Fault-Tolerant Applications," *IEEE Transactions on Computers*, 46, (4), April 1997, 484-491.
56. J. Wu, "Reliable Unicasting in Faulty Hypercubes Using Safety Levels," *IEEE Transactions on Computers*, 46, (2), Feb. 1997, 241-247.

57. J. Wu, "Dimension-Exchange-Based Global Load Balancing in Faulty Hypercubes," *Concurrency: Practice and Experience*, 9, (1), Jan. 1997, 41-61.
58. H. Qian and J. Wu, "Enhanced Fibonacci Cubes," *The Computer Journal*, 39, (4), 1996, 331-345.
59. J. Wu, E. B. Fernandez, and M. Zhang, "Modelling of Hybrid Fault-Tolerant Software with Cost Constraints," *Journal of Systems and Software*, 33, (2), Nov. 1996, 141-149.
60. J. Wu and K. Yao, "Fault-Tolerant Multicasting in Hypercubes Using Limited Global Information," *IEEE Transactions on Computers*, 44, (9), Sept. 1995, 1162-1166.
61. J. Wu, "Tight Bounds on the Number of L -nodes in a Faulty Hypercube," *Parallel Processing Letters*, 5, (2), 1995, 321-328.
62. L. Brown and J. Wu, "Snooping in Fault-Tolerant Distributed Shared Memories," *Journal of Systems and Software*, May 1995, 149-166.
63. J. Wu, "Safety Level – An Efficient Mechanism for Achieving Reliable Broadcasting in Hypercubes," *IEEE Transactions on Computers*, 44, (5), May 1995, 702-705.
64. J. Wu and E. B. Fernandez, "Using Petri Nets for Determining Conversation Boundaries in Fault-Tolerant Software," *IEEE Transactions on Parallel and Distributed Systems*, 5, (10), Oct. 1994, 1106-1112.
65. J. Wu, "An Optimal Fault-Tolerant Nonredundant Broadcasting Scheme in Injured Hypercubes," *Journal of Parallel and Distributed Computing*, 22, (2), August 1994, 295-313.
66. J. Wu, E. B. Fernandez, and R. Zhang, "Some Extensions to the Lattice Model in Multilevel Computer Security," *Computers and Security*, 11, (4), 1992, 357-369.
67. J. Wu and E. B. Fernandez, "A Simplification of A Conversation Design Scheme Using Petri Nets," *IEEE Transactions on Software Engineering*, 15, (5), May 1989, 658-660.

4.2 Conference Proceedings

(those with acceptance rate < 30% selected from 204 refereed conference articles)

1. J. Wu, "FusionE: A Scalable Constant Degree and Low Congestion DHT Scheme Based on Kautz Graph," *Proc. of the 24th Annual Joint Conf. of IEEE Communication and Computer Society (INFOCOM)*, 2005.
2. J. Wu, "SMART: A Scan-Based Movement-Assisted Sensor Deployment Method in Wireless Sensor Networks," *Proc. of the 24th Annual Joint Conf. of IEEE Communication and Computer Society (INFOCOM)*, 2005.
3. F. Dai and J. Wu, "Constructing k -Connected k -Dominating Set in Wireless Networks," accepted to appear in *Proc. of the 19th International Parallel and Distributed Processing Symposium (IPDPS 2005)*.

4. F. Dai and J. Wu, "Proactive Route Maintenance in Ad Hoc Wireless Networks," accepted to appear in *Proc. of the IEEE 2005 International Conference on Communications (ICC 2005)*.
5. F. Dai and J. Wu, "Efficient Broadcasting in Ad Hoc Networks Using Directional Antennas," accepted to appear in *Proc. of IFIP Networking 2005*, May 2005.
6. J. Wu and W. Lou, "Extended Multipoint Relays to Determine Connected Dominating Sets in MANETS," *Proc. of the First Annual IEEE Communications Society Conference on Sensor and Ad Hoc Communications and Networks (SECON)*, 2004.(CD-ROM)
7. M. Cardei, J. Wu, and S. Yang, "Topology Control in Ad Hoc Wireless Networks with Hitch-hiking," *Proc. of the First Annual IEEE Communications Society Conference on Sensor and Ad Hoc Communications and Networks (SECON)*, 2004. (CD-ROM)
8. W. Lou and J. Wu, "A K-hop Zone-Based Broadcast Protocol in Mobile Ad Hoc Networks," *Proc. of IEEE Global Telecommunications Conference (GLOBECOM)*, 2004.(CD-ROM)
9. C. Huang, F. Dai, and J. Wu, "On-Demand Location-Aided QoS Routing in Ad Hoc Networks," *International Conference on Parallel Processing (ICPP)*, Aug. 2004, 502-509.
10. J. Wu and F. Dai, "Mobility Management and Its Applications in Efficient Broadcasting in Mobile Ad Hoc Networks," *Proc. of the 23rd Annual Joint Conf. of IEEE Communication and Computer Society (INFOCOM)*, 2004.(CD-ROM)
11. W. Lou and J. Wu, "Double-Covered Broadcast (DCS): A Simple Reliable Broadcast Algorithm in MANETs," *Proc. of the 23rd Annual Joint Conf. of IEEE Communication and Computer Society (INFOCOM)*, 2004.(CD-ROM)
12. M. Agarwal, J. H. Cho, L. X. Gao, and J. Wu, "Energy Efficient Broadcast in Wireless Ad Hoc Networks with Hitch-hiking," *Proc. of the 23rd Annual Joint Conf. of IEEE Communication and Computer Society (INFOCOM)*, 2004. (CD-ROM)
13. J. Wu and F. Dai, "A Distributed Formation of a Virtual Backbone in Ad Hoc Networks using Adjustable Transmission Ranges," *Proc. of the 24th IEEE International Conf. on Distributed Computing Systems (ICDCS)*, 2004, 372-379.
14. F. Dai and J. Wu, "Performance Analysis of Broadcast Protocols in Ad Hoc Networks Based on Self-Pruning," *Proc. of IEEE Wireless Communications and Networking Conference (WCNC)*, 2004.(CD-ROM)
15. J. Wu and Z. Jiang, "On Constructing the Minimum Orthogonal Convex Polygon in 2-D Faulty Meshes," *Proc. of IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2004. (CD-ROM)
16. J. Wu and F. Dai, "Mobility-Sensitive Topology Control in Mobile Ad Hoc Networks," *Proc. of IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2004.(CD-ROM)

17. J. Cao, J. Zhou, D. Chen, and J. Wu, "An Efficient Distributed Mutual Exclusion Algorithm Based on Relative Consensus Voting," *Proc. of IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2004. (CD-ROM)
18. W. Lou and J. Wu, "A Double-Covered Broadcast Protocol for Mobile Ad Hoc Networks," *Proc. of IEEE Global Telecommunications Conference (GLOBECOM)*, 2003. (CD-ROM)
19. J. Wu, "An Enhanced Approach to Determine A Small Forward Node Set Based on Multipoint Relays," *Proc. of 2003 IEEE Semiannual Vehicular Technology Conference (VTC2003-Fall)*, Oct. 2003. (CD-ROM)
20. J. Wu and B. Wu, "A Transmission Range Reduction Scheme for Power-Aware Broadcasting in Ad Hoc Networks Using Connected Dominating Sets," *Proc. of 2003 IEEE Semiannual Vehicular Technology Conference (VTC2003-Fall)*, Oct. 2003 (CD-ROM)
21. J. Wu and F. Dai, "Broadcasting in Ad Hoc Networks Based on Self-Pruning," *Proc. of the 22nd Annual Joint Conf. of IEEE Communication and Computer Society (INFOCOM)*, 2003, (CD-ROM).
22. F. Dai and J. Wu, "Distributed Dominant Pruning in Ad Hoc Wireless Networks," *Proc. of IEEE International Conf. on Communications (ICC)*, 2003, (CD-ROM).
23. J. Wu and F. Dai, "A Generic Distributed Broadcast Scheme in Ad Hoc Wireless Networks," *Proc. of the 23rd IEEE International Conf. on Distributed Computing Systems (ICDCS)*, May 2003, 460-467.
24. J. Wu and F. Dai, "An Extended Link Reversal Protocol in Dynamic Networks," *Proc. of IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2003, (CD-ROM).
25. J. Wu and F. Dai, "A Generic Broadcast Protocol in Ad Hoc Networks Based on Self-Pruning," *Proc. of IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 2003, (CD-ROM).
26. W. Lou and J. Wu, "Efficient Broadcast With Forward Node Set in Clustered Mobile Ad Hoc Networks," *Proc. of the 11th International Conference on Computer Communications and Networks (ICCCN 2002)*, Oct. 2002.
27. J. Cao, X. Wang, and J. Wu, "A Mobile Agent Enabled Fully Distributed Mutual Exclusion Algorithm," *Proc. of the 6th IEEE International Conference on Mobile Agents (MA02)*, Oct. 2002.
28. J. Wu and D. J. Wang, "Fault-Tolerant and Deadlock-Free Routing in 2-D Meshes Using Rectilinear-Monotone Polygonal Fault Blocks," *Proc. of the 2002 International Conference on Parallel Processing (ICPP)*, 2002, 247-256.
29. J. Wu, "An Extended Dynamic Source Routing Scheme in Ad Hoc Wireless Networks," *Proc. of the 35th Hawaii International Conference on System Sciences (HICSS-35)*, 2002. (CD-ROM).

30. J. Wu, M. Gao, and I. Stojmenovic "On Calculating Power-Aware Connected Dominating Sets for Efficient Routing in Ad Hoc Wireless Networks," *Proc. of the 2001 International Conference on Parallel Processing (ICPP)*, 2001, 346-356.
31. B. Roussev and J. Wu "Client-Server Design Alternatives: Back to Pipes but with Threads," *Proc. of the 1st International Conference on Networking (ICN'01)*, Pascal Lorenz (Ed.), Lecture Notes in Computer Science 2094, July 2001, 854-866.
32. E. B. Fernandez, J. Wu, and D. Hancock, "A Design Method for Real-time Object-Oriented Systems Using Communicating Real-Time State Machines," *Proc. of 2001 Information Resources Management Association Conference (IRMA)*, May 2001, 792-797.
33. J. Wu, "A Distributed Formation of Orthogonal Convex Polygons in Mesh-Connected Multicomputers," *Proc. of International Parallel and Distributed Processing Symposium (IPDPS)*, 2001, (CD-ROM).
34. J. Wu and H. Li, "Domination and Its Applications in Ad Hoc Wireless Networks with Unidirectional Links," *Proc. of the 2000 International Conference on Parallel Processing (ICPP)*, Aug. 2000, 189-200.
35. J. Wu, "A Fault-Tolerant Adaptive and Minimal Routing Approach in n -D Meshes," *Proc. of the 2000 International Conference on Parallel Processing (ICPP)*, Aug. 2000, 431-438.
36. J. Wu, "On Sorting an Intransitive Total Ordered Set Using Semi-Heap," *Proc. of IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, May 2000, 257-262.
37. J. Wu and H. Li, "On Calculating Connected Dominating Set for Efficient Routing in Ad Hoc Wireless Networks," *Proc. of the 3rd International Workshop on Discrete Algorithms and Methods for Mobile Computing and Communications (Dial M)* (in conjunction with MobiCom 1999), Aug. 1999, 7-14.
38. J. Wu and Y. Yang, "Postal Network: A Versatile Interconnection Topology," *Proc. of the 1998 International Conference on Parallel Processing (ICPP)*, Aug. 1998, 612-619.
39. J. Wu, "Fault-Tolerant Adaptive and Minimal Routing in Mesh-connected Multicomputers Using Extended Safety Levels," *Proc. of the 18th IEEE International Conf. on Distributed Computing Systems (ICDCS)*, May 1998, 428-435.
40. S. Cang and J. Wu, "Minimizing Total Communication Distance of a Broadcast on Mesh and Torus Networks," *Proc. of the 1st IEEE IPPS/SPDP*, April 1998, 11-17,
41. J. Wu, E. B. Fernandez, and Y. Luo, "Embedding of Binomial Trees in Hypercube Multiprocessors with Link Faults", *Proc. of the 1997 International Conference on Parallel Processing (ICPP)*, August 1997, 96-99.
42. S. Q. Zheng and J. Wu, "Dual of a Complete Graph as an Interconnection Network," *Proc. of the 7th IEEE International Symposium on Parallel and Distributed Processing (SPDP)*, 1996, 433-442.

43. J. Wu. "An Optimal Routing Policy for Mesh-connected Topologies," *Proc. of the 25th International Conference on Parallel Processing (ICPP)*, August 1996, I-267-I-271.
44. J. Wu, "A Fault-Tolerant Distributed Unicasting Scheme for Cube-based Multicomputers," *Proc. of the 16th IEEE International Conference on Distributed Computing Systems (ICDCS)*, May 1996, 166-174.
45. H. Qian, E. B. Fernandez, and J. Wu, "A Combined Functional and Object-Oriented Approach to Software Design," *Proc. of the 1st IEEE International Conference on Engineering of Complex Computer Systems*, Nov. 1995, 167-174.
46. J. Wu, "Extended Fibonacci Cubes," *Proc. of the 7th IEEE Symposium on Parallel and Distributed Processing (SPDP)*, Oct. 1995, 248-251.
47. J. Wu, "Unicasting in Faulty Hypercubes Using Safety Levels," *Proc. of the 1995 International Conference on Parallel Processing (ICPP)*, 1995, III-132-III-136.
48. E. B. Fernandez, J. Wu and M. H. Fernandez, "User Group Structures in Object-Oriented Database Authorization," *Proc. of the 8th Annual IFIP Working Group 11.3 Working Conference on Database Security*, August 1994, 57-76.
49. J. Wu, "Dimension-Exchange-Based Load Balancing on Injured Hypercubes," *Proc. of the 1994 International Conference on Parallel Processing (ICPP)*, August 1994, III-88-III-91.
50. L. Brown and J. Wu, "Dynamic Snooping in a Fault-Tolerant Distributed Shared Memory," *Proc. of the 14th International Conference on Distributed Computing Systems (ICDCS)*, June 1994, 218-226.
51. J. Wu and K. Yao, "Multicasting in Injured Hypercubes Using Limited Global Information," *Proc. of the 5th IEEE Symposium on Parallel and Distributed Processing (SPDP)*, Dec. 1993, 548-555.
52. J. Wu and E. B. Fernandez, "Broadcasting in Faulty Hypercubes," *Proc. of the 11th Symposium on Reliable Distributed Systems, IEEE*, Oct. 1992, 122-129.
53. J. Wu and E. B. Fernandez, "Broadcasting in Faulty Cube-Connected Cycles with Minimum Recovery Time," *Proc. of Parallel Processing: CONPAR92*, Lecture Notes in Comp. Science 634, Springer Verlag, 1992, 833-834.
54. K. Huang and J. Wu, "Balanced Hypercubes," *Proc. of the 1992 International Conference on Parallel Processing (ICPP)*, August 1992, I-80-I-84.
55. J. Wu, "Efficient Fault-Tolerant Nonredundant Broadcasting in Hypercube Multicomputers," *Proc. of the 1992 International Conference on Parallel Processing (ICPP)*, August 1992, III-23-III-36.
56. Z. Li and J. Wu, "A Fully Fault-Tolerant Multidestination Routing Scheme in Hypercube Multiprocessors," *Proc. of the 1991 International Conference on Parallel Processing (ICPP)*, 1991, III-290-III-291.

4.3 Books and Book Chapters

(selected from 2 books and 15 book chapters)

1. J. Wu, *Distributed Systems Design*, CRC Press, 1999. (Chinese Edition, China Machine Press, 2001.)
2. J. Wu, *Handbook of Theoretical and Algorithmic Aspects of Sensor, Ad Hoc Wireless and Peer-to-Peer Networks*, CRC Press, to appear, 2005.
3. J. Wu and F. Dai, "Mobility Control and Its Applications in Mobile Ad Hoc Networks," accepted to appear in *Handbook of Algorithms for Mobile and Wireless Networking and Computing*, A. Boukerche (ed.), CRC Press, 2005.
4. W. Lou and J. Wu, "Broadcasting in Ad Hoc Networks using Neighbor Designating," accepted to appear in *Handbook of Mobile Computing*, I. Maghoub and M. Ilyas (eds.), CRC Press, 2005, 663-686.
5. I. Stojmenovic and J. Wu, "Broadcasting and Activity-Scheduling in Ad Hoc Networks," in *Ad Hoc Networking*, S. Basagni, M. Conti, S. Giordano, and I. Stojmenovic (eds.), IEEE Press, 2004, 205-229.
6. M. Cardei and J. Wu, "Coverage in Wireless Sensor Networks," in *Handbook of Sensor Networks*, M. Ilyas (ed.), CRC Press, 2004, 19.1-19.20.
7. I. Jawhar and J. Wu, "QoS Routing in Ad Hoc Networks," in *Resource Management in Wireless Networking*, M. Cardei, I. Cardei, and D. -Z. Du (eds.), Springer, 2004, 365 - 400.
8. J. Wu, "Dominating-Set-Based Routing in Ad Hoc Wireless Networks," in *Wireless Networks and Mobile Computing*, I. Stojmenovic (ed.), John Wiley & Sons, 2002, 425-450.
9. E. B. Fernandez, J. Wu, and D. R. Hancock, "A Design Method for Real-Time Object-Oriented Systems Using Communicating Real-Time State Machines", in *Successful Software Reengineering*, S. Valenti (ed.), IRM Press, 2002, 171-185.
10. Y. Pan, C. Qiao, Y. Yang, and J. Wu, "Recent Developments in Optical Multistage Networks," in *Optical Networks - Recent Advances*, L. Ruan and D. -Z. Du (eds), Kluwer Academic Publisher, 2001, 151-185.
11. B. Roussev and J. Wu, "Task Scheduling on NOWs using Lottery-Based Workstealing," in *Annual Review of Scalable Computing*, Y. C. Kwong (ed), World Scientific, 2001, 63-84.

4.4 Department Technical Reports (80)

4.5 Presentations (Invited Seminars)

American University in Beirut, Zhongshang University (China), George Washington University, West Chester University, National University of Defense Technology

(China), Xiamen University (China), Michigan State University, McGill University (Canada), University of Tsukuba (Japan), University of Massachusetts at Amherst, University of Nebraska at Lincoln, Northeastern University (China), Polytechnic University of Milan (Italy), University of Connecticut, University of Alabama, Academy of Sciences (Taiwan), Tamkang University (Taiwan), National Qiaotong University (Taiwan), Zhejiang University (China), Kent State University, Hong Kong Polytechnic University (Hong Kong), University of Minnesota (sponsored by Cray Inc.), University of Cincinnati (IEEE Distinguished Lecture), IEEE Ottawa Chapter (Canada) (IEEE Distinguished Lecture), City University of Hong Kong, Shanghai Jiaotong University, Shanghai University, IEEE Central Texas Chapter (IEEE Distinguished Lecture), Motorola (Plantation, FL), Southwest Texas State University, University of Toledo, IEEE Philadelphia Chapter (IEEE Distinguished Lecture), Univ. of New South Wale (Australia), Old Dominion University, National Central University (Taiwan), National Taiwan University (Taiwan), National Tsinghua University (Taiwan), National Cheng-Kung University (Taiwan), Tokyo Denki University (Japan), The University of Vermont, Nanjing University (China), Xi'an Qiaotong University (China), Chinese Academic of Science (China), Tsinghua University (China), American University of Bulgaria (Bulgaria), University of Newcastle Upon Tyne (England), Motorola (Boynton Beach, FL), Shanghai Railway University (China), Louisiana State University, Polish Academy of Sciences (Poland), Shanghai University of Science and Technology (China) Polytechnic University of Madrid (Spain), University of Hong Kong (Hong Kong), Georgia Institute of Technology, University of Rhode Island, IEEE Palm Beach Chapter, Utah State University, and Xavier University.

5 Sponsored Research

- Efficient and Localized Broadcasting in Ad Hoc Wireless Networks (PI) 9/04 - 9/07.
Supported by National Science Foundation, Arlington, VA (CNS 0422762) (\$225,000)
- Wireless and Sensor Network Laboratory (CNS 0434533) (Co-PI) 8/04 - 8/07.
Supported by National Science Foundation, Arlington, VA (CNS 0422762) (\$57,263)
- Secure Telecommunication Networks (Co-PI) 9/04 - 9/06.
Supported by Federal Earmark Projects (\$2,000,000)
- Energy Efficient Communication in Sensor Networks (PI) 9/03 - 9/06.
Supported by National Science Foundation, Arlington, VA (CCR 039741) (\$375,000)
- International Workshop on Theoretical and Algorithmic Aspects of Sensor, Ad Hoc Wireless, and Peer-to-Peer Networks (PI) 10/03 - 10/04.
Supported by National Science Foundation, Arlington, VA (CCR 0335238) (\$22,200)
- Research Experiences for Undergraduates (REU) (PI) 5/03 - 5/04 Supported by National Science Foundation, Arlington, VA (\$11,650)
- A Theory of Fault-Tolerant Adaptive and Minimal Routing in Mesh-Connected Multicomputers (PI) 4/99 - 4/03.
Supported by National Science Foundation, Arlington, VA (CCR 9900646) (\$134,109)

- A Dominating-Set-Based Routing Scheme in Ad Hoc Wireless Networks (PI) 6/00 - 6/03.
Supported by National Science Foundation, Arlington, VA (ANI 0073736) (\$181,957)
- A Low Cost Parallel and Distributed Systems Laboratory (PI) 9/01 - 9/04.
Supported by National Science Foundation, Arlington, VA (EIA 0130806) (\$79,039)
- Research Experiences for Undergraduates (REU) (PI) 5/02 - 5/03 Supported by National Science Foundation, Arlington, VA (\$5,500)
- Implementation of Radio Service Software (PI) 1/97 - present.
Supported by a grant from Motorola, Inc. Plantation, FL (\$1,612,534)
- Self-Organization Cluster-Tree Design in ns-2 platform (PI) 8/03 - 7/04.
Supported by a grant Florida Communication Research Lab., Motorola, Inc. Plantation, FL (\$60,000)
- Software Path Coverage (PI) 1/03 - 12/03.
Supported by a grant from Motorola, Inc. Plantation, FL (\$55,487)
- Computer System Evaluation (PI) 1/90-5/95.
Supported by IBM, Boca Raton, FL (\$1,030,000)
- PI in 6 other sponsored research grants (a total of over \$400,000) funded by:
 - Motorola, Boynton Beach, FL (1997-1998)
 - South Florida Water Management District (1996-1998)
 - Florida High Tech. and Industry Council (1990-1991)
 - Alpine Engineered, FL (1999-2000)
 - Malema Corp., FL (2000-2001)
 - SIVA Corp., FL (2000-2001)
 - EDSS Corp., FL (2003-2003)

6 Professional Service

6.1 Membership Professional Societies

- Institute of Electrical and Electronics Engineering (IEEE): Computer Society (senior member since 1994).
- Association for Computing Machinery (ACM)
- Society for Computers and Their Applications (ISCA)
- Upsilon Pi Epsilon (UPE): Computing Science Honor Society

6.2 Editorial Board

- IEEE Transactions on Parallel and Distributed Systems, (2002-present)
- IEEE Computer (Guest Editor, 02/2004)
(special issue on “Ad Hoc Networking”)
- Journal of Parallel and Distributed Computing (Guest Editor, 12/2004)
(special issue on “Theoretical and Algorithmic Aspects of Sensor, Ad Hoc Networks, and Peer-to-Peer Networks”)
- IEEE Transactions on Parallel and Distributed Systems (Guest Editor, 11/1999)
(special issue on “Challenges in Designing Fault-Tolerant Routing in Networks”)
- Journal of Parallel and Distributed Computing (Guest Editor, 9/2001)
(special issue on “Routing in Computer and Communication Networks”)
- IASTED International Journal of Computers and Applications (Co-Editor-in-Chief, 9/2003-present)
- International Journal of High Performance Computing and Networking (IJHPCN) (9/2003-present)
- Journal of Computer Science and Technology (A publication of the Chinese Computer Federation, 9/2002-present)
- Ad Hoc & Sensor Wireless Networks: An International Journal (AHSWN)(10/2004 - present)
- International Journal of Parallel, Emergent, and Distributed Systems (IJPEDS) (10/2004 - present)
- Journal of Pervasive Computing and Communications (JPCC) (9/2004- present)
- ISCA International Journal of Computers and Their Applications (Associate Editor in Networks and Protocols, 9/1999-12/2002)
- International Advisory Board, High Education Publishing Inc., China.

6.3 Conference Organization

1. Program Co-Chair: The 1st International Workshop on Security and Mobility in Peer-to-Peer Systems (MPPS) (in conjunction with ICDCS), 2005.
2. Program Co-Chair: The 1st International Workshop on Ad Hoc, Sensor and P2P Networks (AHSP) (in conjunction with ISADS), 2005.
3. Program Co-Chair: International Conference on Mobile Ad-hoc and Sensor Networks (MSN), 2005.
4. Program Vice Chair: International Conference on Computer Networks and Mobile Computing (ICCNMC), 2005.

5. Program Chair: The 1st IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), 2004.
6. General Co-Chair: The 2nd International Workshop on Mobile Distributed Computing (MDS), 2004.
7. Workshops Chair: The IEEE International Conference on Distributed Computing Systems (ICDCS), 2003.
8. General Co-Chair: The 7th International Conference on Computer Science and Informatics (ICS), 2003.
9. Program Co-Chair: The 4th and 5th Workshops on Advances in Parallel and Distributed Computational Models (in conjunction with IPDPS), 2002 and 2003.
10. Program Vice Chair: The 21th IEEE International Conference on Distributed Computing Systems (ICDCS), 2001.
11. Program Co-Chair: Workshop on Wireless Networks and Mobile Computing 2001 (in conjunction with ICPP 2001), 2001.
12. Program Vice Chair: The 29th International Conference on Parallel Processing (ICPP), 2000.
13. Program Co-Chair: The 12th ISCA International Conference on Parallel and Distributed Computing Systems (PDCS), 1999.
14. Local Arrangements Chair: The 5th IEEE International Symposium on High Performance Computer Architecture (HPCA), 1999.
15. Advisory Committee: The 13th and 14th ISCA International Conference on Parallel and Distributed Computing Systems (PDCS), 2000 and 2001.
16. Advisory Committee: The 18th International Conference on Advanced Information Networking and Applications (AINA), 2004.
17. Steering Committee: The 6th Workshops on Advances in Parallel and Distributed Computational Models (in conjunction with IPDPS), 2004.
18. Program Committee: The International Conference on Parallel Processing (ICPP), 1999, 2000, 2001, 2002, and 2004.
19. Program Committee: The 16th, 18th, 20th, and 23rd International Conference on Distributed Computing Systems (ICDCS), 1996, 1998, 2000, 2001, and 2004.
20. Program Committee: The 23rd and 24th Annual Joint Conference of the IEEE Computer and Communications (INFOCOM), 2004 and 2005.
21. Program Committee: The IEEE Global Telecommunications Conference (GLOBECOM), 2004.
22. Program Committee: IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS), 2005.

23. Program Committee: IEEE International Parallel and Distributed Processing Symposium (IPDPS), 2005.
24. Program Committee: The 10th Annual International Symposium on High Performance Computing (HPCA), 2003.
25. Organization Committee of over 100 other international conferences and workshops.

6.4 Professional Referee Service

Proposals:

National Science Foundation (NSF)

Journal Papers:

IEEE Computer, IEEE Software, IEEE Parallel and Distributed Technology, IEEE Transactions on Software Engineering, IEEE Transactions on Computers, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Mobile Computing, ACM Transactions on Knowledge and Data Engineering, ACM Transactions on Computer Systems, ACM Computing Reviews, The Computer Journal, Distributed Computing, Discrete Applied Mathematics, Computer Networks and ISDN Systems, Journal of Parallel and Distributed Computing, Concurrency – Practice and Experience, Software – Practice and Experience, and many other journals.

Conferences:

International Conference of the IEEE Computer and Communications (INFOCOM), IEEE Global Telecommunications Conference (GLOBECOM), IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), IEEE International Conference on Communications (ICC), IEEE Semiannual Vehicular Technology Conference (VTC), IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS), International Symposium on Fault-Tolerant Computing (FTCS), International Conference on Parallel Processing (ICPP), IEEE International Symposium on High-Performance Computer Architecture (HPCA), IEEE International Conference on Distributed Computing Systems (ICDCS), IEEE International Parallel and Processing Symposium (IPPS), IEEE International Symposium on Parallel and Distributed Processing (SPDP), IEEE International Parallel and Distributed Processing Symposium (IPDPS), IEEE Symposium on Reliable Distributed System (SRDS), IEEE International Computer Software and Applications Conference (COMPSAC) and many other conferences.

Published Reviews of Books and Articles:

Five review articles for *ACM Computing Reviews*

One review article for *IEEE Computer*

6.5 IEEE Computer Society

Secretary and Treasurer: IEEE Technical Committee on Distributed Processing (8/1999 - present)

6.6 University Service

Director of CSE Graduate Programs (9/1997-8/2002)
Department TA/GA Committee (Chair, 8/2002-present)
Department Personnel Committee (8/1999-present)
College Personnel Committee (8/2001-present)
IEEE student advisor (9/1995-8/2002)

7 Professional Recognition

- IEEE Distinguished Visitor: Computer Society, Sept. 1998 - Aug. 2001.
- IEEE Computer Society and ICDCS'03 Outstanding Service Award, May 2003.
- Concurrent Professor: Nanjing University, P. R. China, 1999 - present.
- Adjunct Professor: Shanghai Jiaotong University, Shanghai, China, 2002 - present.
- International Advisory Board: School of Electronics, Information and Electrical Engineering (SEIEE), Shanghai Jiaotong University, Shanghai, China, 2002 - present.
- Researcher of the Year (Full Professor level): Florida Atlantic University, 2001-2002.
- Researcher of the Year (Associate Professor level): Florida Atlantic University, 1996-1997.
- Keynote Speaker: The 6th International Workshop on Parallel and Distributed Scientific and Engineering Computing (PDSEC), 2005.
- Keynote Speaker: The 3rd International Workshop on Mobile Distributed Computing (MDC), 2005.
- Keynote Speaker: The 6th International Workshop on Advances in Parallel and Distributed Computational Models, 2004.
- Keynote Speaker: International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT), 2004.
- Keynote Speaker: International Symposium on Parallel Processing and Applications, 2003.
- Keynote Speaker: International Conference on Parallel and Distributed Computing and Networks, 1998.
- Outstanding Achievements Award: International Association of Science and Technology for Development (IASTED), 1998.