

Publications

Hongyi Wu

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(The first author is either one of my students or myself except for those marked with*)

Book:

- (1) Hongyi Wu and Yi Pan, "Medium Access Control in Wireless Networks Volume I: Theory", *Nova Science Publishers*, to be published in 2007.
- (2) Hongyi Wu and Yi Pan, "Medium Access Control in Wireless Networks Volume II: Practice and Standards", *Nova Science Publishers*, to be published in 2008.

Book Chapter:

- (3) Haining Chen and Hongyi Wu, "Selecting Working Sensors in Sensor Network", to appear in *Combinatorial Optimization in Communication Networks*, Kluwer.
- (4) Dmitri Perkins*, Ramesh Tumati, Hongyi Wu, and Ikhlas Ajbar, "Localization in Wireless Ad Hoc Networks", to appear in *Resource Management in Wireless Networking*, Kluwer.
- (5) Anant Utgikar and Hongyi Wu, "Synchronization Based Reservation Protocols for Medium Access Control in Multihop Wireless Networks", *Security And Routing in Wireless Networks*, Nova Science Publishers, Chapter 5, pp. 125-136, 2005.
- (6) Hongyi Wu, Chunming Qiao and Sudhir Dixit, "Signaling and Routing Protocols in iCAR (integrated Cellular and Ad hoc Relaying System)", in *Wireless IP and Building the Mobile Internet*, Artech House, Chapter 20, pp. 441-455, 2003.

Refereed Journal Paper:

- (7) Haining Chen, Hongyi Wu, Sundara Kumar, and Nian-Feng Tzeng, "Minimum-Cost Data Delivery in Heterogeneous Wireless Networks", accepted for publication in *IEEE Transactions on Vehicle Technology*.
- (8) Yu Wang, Hongyi Wu, Ha Dang, and Feng Lin, "Analytic, Simulation, and Empirical Evaluation of Delay/ Fault-Tolerant Mobile Sensor Networks", accepted for publication in *IEEE Transactions on Wireless Communications*.
- (9) Yu Wang and Hongyi Wu, "Delay/Fault-Tolerant Mobile Sensor Network (DFT-MSN): A New Paradigm for Pervasive Information Gathering", accepted for publication in *IEEE Transactions on Mobile Computing*.
- (10) Yijun Li, Hongyi Wu, Nian-Feng Tzeng, Dmitri Perkins, and Magdy Bayoumi, "MAC-SCC: Medium Access Control with a Separate Control Channel for Multihop Wireless Networks", in *IEEE Transactions on Wireless Communications*, Vol. 5, No. 7, pp. 1805-1817, 2006.
- (11) Fei Hu*, Yu Wang, and Hongyi Wu, "Mobile Telemedicine Sensor Networks with Low-energy Data Query and Network Lifetime Considerations", in *IEEE Transactions on Mobile Computing*, Vol. 5, No. 4, pp. 404 - 417, 2006.

- (12) Hongyi Wu, Chong Wang, and Nian-Feng Tzeng, "Novel Self-Configurable Positioning Technique for Multi-hop Wireless Networks", in *IEEE/ACM Transactions on Networking*, Vol. 13, No. 3, pp. 609-621, June 2005.
- (13) Hongyi Wu, Anant Utgikar, and Nian-Feng Tzeng, "SYN-MAC: A Distributed Medium Access Control Protocol for Synchronized Wireless Networks", in *ACM Mobile Networks and Applications Journal (MONET) Special Issue on WLAN Optimization at the MAC and Network Levels*, Vol. 10, No. 5, pp. 627-637, 2005.
- (14) Yu Wang, Ha Dang, and Hongyi Wu, "A Survey on Analytic Studies of Delay-Tolerant Mobile Sensor Networks", to appear in *Wireless Communications and Mobile Computing (WCMC) Special Issue on Disruption Tolerant Networking for Mobile or Sensor Networks*. (Invited paper).
- (15) Yu Wang, Hongyi Wu, and Nian-Feng Tzeng, "Energy-Efficient Communication in Wireless Sensor Networks: An Integrated Approach on Power Control and Load Balancing", to appear in *International Journal of Ad Hoc & Sensor Wireless Networks*. (Invited paper as one of the best papers in Workshop on Wireless Ad hoc and Sensor Networks in conjunction with ICDCS 2006).
- (16) Hongyi Wu, Chunming Qiao, and Sudhir Dixit, "Signaling and Routing Protocols for iCAR", to appear in *International Journal of Ad Hoc & Sensor Wireless Networks*. (Invited paper as one of the best four papers in International Conference on Mobile Ad-hoc and Sensor Networks 2005).
- (17) Rajesh Prasad and Hongyi Wu, "Gateway Deployment Optimization in Cellular Wi-Fi Mesh Networks", in *Journal of Networks (JNW)*, Vol. 1, No. 3, pp. 31-39, 2006. (Invited paper).
- (18) Hongyi Wu, Swades De, Chunming Qiao, Evsen Yanmaz, and Ozan Tonguz, "Handoff Performance of The Integrated Cellular and Ad Hoc Relaying (iCAR) System", in *ACM Wireless Networks (WINET)*, Vol. 11, No. 6, pp. 775-785, November, 2005.
- (19) Swades De*, Chunming Qiao, and Hongyi Wu, "Meshed Multipath Routing: An Efficient Strategy in Wireless Sensor Networks", in *Elsevier Computer Networks*, Special Issue on Wireless Sensor Networks, Vol. 43, No. 4, pp. 481-497, November 2003.
- (20) Hongyi Wu and Chunming Qiao, "Modelling iCAR System Via Multi-dimensional Markov Chain", in *ACM Mobile Networks and Applications Journal (MONET)*, Special Issue on Performance Evaluation of QoS Architectures in Mobile Networks, Vol. 8, No. 3, pp. 295-306, June 2003.
- (21) Swades De*, Sajal K. Das, Hongyi Wu, and Chunming Qiao, "Trigger-Based Distributed QoS Routing in Mobile Ad Hoc Networks", in *ACM SIGMOBILE Mobile Computing and Communications Review (MC2R)*, Vol. 6, No. 3, pp. 22-35, July 2002. (Best Poster Paper from ACM MobiHoc'02).
- (22) Hongyi Wu, Chunming Qiao, Swades De, and Ozan Tonguz, "An integrated Cellular and Ad hoc Relaying system: iCAR", in *IEEE Journal on Selected Areas in Communications (JSAC)*, Special issue on Mobility and Resource Management in Next Generation Wireless Systems with Ian F. Akyildiz, David Goodman and Leonard Kleinrock as co-guest editors, Vol. 19, No. 10, pp. 2105-2115, October 2001. (Accepted 23 out of 140 papers and cited 170 times according to Google Scholar).

Conference Paper Submissions:

- (23) Lei Pan, Hongyi Wu, and Nian-Feng Tzeng, "P-MAC: A Prioritized Medium Access Control Protocol", submitted to a conference for possible publication.
- (24) Yu Wang, Hongyi Wu, Feng Lin, and Nian-Feng Tzeng, "Protocol Design and Optimization for Delay/Fault-Tolerant Mobile Sensor Networks", submitted to a conference for possible publication.
- (25) Ha Dang, Lei Pan, Xiaojuan Xie, Yu Wang, and Hongyi Wu, "Analytic Queuing Models for Delay-Tolerant Mobile Networks", submitted to a conference for possible publication.

- (26) Su Xia and Hongyi Wu, “CDMA-based Mesh Wireless Networks”, submitted to a conference for possible publication.
- (27) Yu Wang, Hongyi Wu, and Ha Dang, “Analytic Study of Delay/Fault-Tolerant Mobile Sensor Networks (DFT-MSN’s)”, submitted to a conference for possible publication.
- (28) Ravi Nelavelli and Hongyi Wu, “Fast Link Assessment in Wireless Mesh Networks By Using Non-constant Weight Code”, submitted to a conference for possible publication.
- (29) Xiaojuan Xie and Hongyi Wu, “Analysis and Optimization of Networks with Selfish Nodes”, submitted to a conference for possible publication.

Refereed Regular Conference Paper:

- (30) Chong Wang, Hongyi Wu, and Nian-Feng Tzeng, “RFID-Based 3-D Positioning Schemes”, to appear in *The 26th Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM’07)*, Anchorage, Alaska, USA, May 6-12, 2007. (Acceptance ratio: 18%).
- (31) Yu Wang and Hongyi Wu, “DFT-MSN: The Delay Fault Tolerant Mobile Sensor Network for Pervasive Information Gathering”, *The 25th Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM’06)*, Barcelona, Spain, April 23-29, 2006. (Acceptance ratio: 18%).
- (32) Yu Wang, Hongyi Wu, and Nian-Feng Tzeng, “Balance-Based Energy-Efficient Communication Protocols for Wireless Sensor Networks”, *Workshop on Wireless Ad hoc and Sensor Networks in conjunction with ICDCS’06*, Lisboa, Portugal, July 4-7, 2006.
- (33) Yu Wang and Hongyi Wu, “Replication-Based Efficient Data Delivery Scheme (RED) for DFT-MSN”, *1st Workshop on Ubiquitous and Pervasive Health Care (UbiCare’06), in conjunction with IEEE PERCOM’06*, pp. 485-489, Pisa, Italy, March 13-17, 2006.
- (34) Feng Lin, Yu Wang, and Hongyi Wu, “Testbed Implementation of Delay/Fault-Tolerant Mobile Sensor Network (DFT-MSN)”, *IEEE International Workshop on Sensor Networks and Systems for Pervasive Computing (PerSeNS’06)”, in conjunction with IEEE PERCOM’06*, pp. 321-327, Pisa, Italy, March 13-17, 2006.
- (35) Rajesh Prasad and Hongyi Wu, “Minimum-Cost Gateway Deployment in Cellular Wi-Fi Networks”, *IEEE Consumer Communications and Networking Conference (CCNC)*, pp. 706-710, Las Vegas, NV, January 8-10, 2006. (Invited paper).
- (36) Hongyi Wu, Chunming Qiao, Evsen Yanmaz, and Ozan Tonguz, “Quality of Coverage (QoC) in Integrated Heterogeneous Wireless Systems”, *International Conference on Mobile Ad-hoc and Sensor Networks (MSN)*, pp. 689-700, Wuhan, China, December 13-15, 2005. (Acceptance ratio: 22%. Invited for publication in International Journal of Ad Hoc & Sensor Wireless Networks among top 4 out of 100 papers accepted in MSN’05.)
- (37) Nian-Feng Tzeng*, Bhanurekha Kasula, and Hongyi Wu, “Efficient Barrier Synchronization on Wireless Computing Systems”, *The 11th International Conference on Parallel and Distributed Systems*, pp. 782-788, Fukuoka, Japan, July 20-22, 2005. (Acceptance ratio: 38%).
- (38) Fei Hu*, Ankur Teredesai, and Hongyi Wu, “Timing-controlled, Low-energy Data Query in Wireless Sensor Networks: Towards A Cross-layer Optimization Approach”, *IEEE International Conference On Networking, Sensing and Control (ICNSC’05)*, pp. 1031-1036, Tucson, AZ, USA, March 19-22, 2005.

- (39) Haining Chen, Hua Liu, and Hongyi Wu, "Self-Maintenance Scheduling Algorithms for Next Generation Wireless Networks", *IEEE Global Telecommunications Conference (GLOBECOM'04)*, pp. 4054-4060, Dallas, TX, USA, November 29-December 3, 2004. (Acceptance ratio: 37.7%).
- (40) Haining Chen, Hongyi Wu, and Nian-Feng Tzeng, "Grid-based Approach for Working Node Selection in Wireless Sensor Networks", *IEEE International Conference on Communication (ICC'04)*, pp. 3673-3678, Paris, France, June 20-24, 2004. (Acceptance ratio: < 30%).
- (41) Yijun Li, Hongyi Wu, Dmitri Perkins, Nian-Feng Tzeng, and Magdy Bayoumi, "MAC-SCC: Medium Access Control with a Separate Control Channel for Multihop Wireless Networks", *Workshop on Mobile and Wireless Networks (MWN'03)*, in conjunction with *IEEE ICDCS'03*, pp. 764-769, May 19-22, 2003.
- (42) Hongyi Wu, Swades De, Chunming Qiao, Evsen Yanmaz, and Ozan Tonguz, "Queuing Delay Performance of the Integrated Cellular and Ad hoc Relaying System", *IEEE International Conference on Communication (ICC'03)*, pp. 923-927, Anchorage, Alaska, USA, May 11-15, 2003. (Acceptance ratio: 37.5%).
- (43) Yang Chen*, Hongyi Wu, Dahai Xu, and Chunming Qiao, "Performance Analysis of Optical Burst Switched Node with Deflection Routing", *IEEE International Conference on Communication (ICC'03)*, pp. 1355-1359, Anchorage, Alaska, USA, May 11-15, 2003. (Acceptance ratio: 37.5%).
- (44) Evsen Yanmaz*, Ozan Tonguz, Hongyi Wu, and Chunming Qiao, "Performance of iCAR Systems: A Simplified Analysis Technique", *IEEE International Conference on Communication (ICC'03)*, pp. 949-953, Anchorage, Alaska, USA, May 11-15, 2003. (Acceptance ratio: 37.5%).
- (45) Swades De*, Chunming Qiao, and Hongyi Wu, "Meshed Multipath Routing: A Novel and Efficient Strategy in Sensor Networks", in *IEEE Wireless Communications and Networking Conference (WCNC'03)*, p. 1912-1917, New Orleans, LA, USA, March 16-20, 2003.
- (46) Swades De*, Sajal K. Das, Hongyi Wu, and Chunming Qiao, "A Resource Efficient RT-QoS Routing Protocol for Mobile Ad Hoc Networks", in *The 5th International Symposium on Wireless Personal Multimedia Communications (WPMC'02)*, pp. 257-261, Honolulu, Hawaii, October 27-30, 2002.
- (47) Evsen Yanmaz*, Ozan Tonguz, Sumita Mishra, Hongyi Wu, and Chunming Qiao, "Efficient Dynamic Load Balancing Algorithms using iCAR Systems: A Generalized Framework", in *IEEE Semiannual Vehicular Technology Conference (VTC'02) Fall*, pp. 586-590, Vancouver, British Columbia, Canada, September 24-29, 2002.
- (48) Chunming Qiao*, Hongyi Wu, Swades De, Evsen Yanmaz, Ozan Tonguz, and Sumita Mishra, "Deploying iCAR in Disaster Recovery", in *The First IEEE Workshop on Disaster Recovery Networks (DIREN'02)*, in conjunction with *INFOCOM'02*, New York City, NY, June 24, 2002.
- (49) Evsen Yanmaz*, Ozan Tonguz, Sumita Mishra, Hongyi Wu, and Chunming Qiao, "Impact of the Number of Channels on the Performance of iCAR Systems", in *IEEE Semiannual Vehicular Technology Conference (VTC'02) Spring*, pp. 1492-1496, Birmingham, Al, May 6-9, 2002.
- (50) Swades De*, Ozan Tonguz, Hongyi Wu, and Chunming Qiao, "Integrated Cellular and Ad hoc Relaying (iCAR) System: Pushing the Performance Limits of Conventional Wireless Networks", in *HICSS-35, mini-track on Mobile Computing and Wireless Network*, pp. 1-8, Hawaii, January 7-10, 2002.
- (51) Hongyi Wu and Chunming Qiao, "Overcoming The Limits Imposed By Cellular Boundaries With iCAR", in *Asia-Pacific Optical and Wireless Communications (APOC'01)*, pp. 304-315, Beijing, China, November 12-16, 2001.
- (52) Hongyi Wu, Chunming Qiao, and Sudhir Dixit, "Distributed Signaling and Routing Protocols in iCAR (integrated Cellular and Ad hoc Relaying System)", in *Fourth International Symposium on Wireless Personal Multimedia Communications (WPMC'01)*, pp. 791-801, Aalborg, Denmark, September 9-12, 2001.

- (53) Hongyi Wu, Chunming Qiao, and Ozan Tonguz, "Performance Analysis Of iCAR (Integrated Cellular and Ad hoc Relaying System)", in *IEEE International Conference on Communications (ICC'01)*, vol. 2, pp. 450-455, Helsinki, Finland, June 11-14, 2001.
- (54) Hongyi Wu, Chunming Qiao, and Ozan Tonguz, "A New Generation Wireless System with Integrated Cellular and Mobile Relaying Technologies", in *International Conference on Broadband Wireless Access Systems (WAS'00)*, pp. 55-62, San Francisco, CA, December 4-6, 2000.
- (55) Chunming Qiao*, Hongyi Wu, and Ozan Tonguz, "iCAR: an Integrated Cellular and Ad hoc Relay System", in *IEEE International Conference on Computer Communications and Networks (IC3N'00)*, pp. 154-161, Las Vegas, NV, October 2000.

Conference Poster Presentation:

- (56) Yu Wang and Hongyi Wu, "Insights in Delay-Tolerant Mobile Sensor Networks", *The Twelfth Annual International Conference on Mobile Computing and Networking (MobiCom)*, Los Angeles, CA, Sept. 24-29, 2006. A summary of this work is to appear in ACM SIGMOBILE Mobile Computing and Communications Review (MC2R).
- (57) Feng Lin, Yu Wang, and Hongyi Wu, "A New Communication Protocol Stack for Delay/Fault-Tolerant Mobile Sensor Networks (DFT-MSN)", *The Third International TinyOS Technology Exchange*, Stanford, CA, February 10, 2006.
- (58) Yu Wang, Feng Lin, and Hongyi Wu, "Efficient Data Transmission in Delay Fault Tolerant Mobile Sensor Networks (DFT-MSN)", *IEEE International Conference on Network Protocols (ICNP'05)*, Boston, MA, November 6-9, 2005.
- (59) Yu Wang, Hongyi Wu, and Nian-Feng Tzeng, "Energy-efficient Data Transmission in Wireless Sensor Networks", *DOE/NSF EPSCoR Conference 2005*, Morgantown, WV June 14-16, 2005.
- (60) Hongyi Wu, Swades De, Chunming Qiao, Evsen Yanmaz, and Ozan Tonguz, "Managed Mobility: A Novel Concept in Wireless Systems", *The 1st IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS'04)*, pp. 537-539, Fort Lauderdale, Florida, USA, October 25-27, 2004.
- (61) Nian-Feng Tzeng*, Bhanurekha Kasula, and Hongyi Wu, "Efficient Barrier Synchronization in Wireless Computing Systems," in *DOE/NSF EPSCoR Conference 2004*, Argonne, IL, June 2004.
- (62) Anant Utgikar, Hongyi Wu, Nian-Feng Tzeng, "SYN-MAC: A Distributed MAC protocol for Synchronized Wireless Networks", in *IEEE International Conference on Network Protocols (ICNP'03)*, Atlanta, GA, November 4-7, 2003.
- (63) Swades De*, Sajal K. Das, Hongyi Wu and Chunming Qiao, "Trigger-Based Distributed QoS Routing in Mobile Networks", in *ACM MobiHoc'02*, Lausanne, Switzerland, June 9-11, 2002.
- (64) Hongyi Wu and Chunming Qiao, "Quality of Coverage: A New Concept for Wireless Networks", in *ACM SIGCOMM'01*, San Diego, CA, August 27-31, 2001. A summary of this work is included in *ACM Computer Communication Review (CCR)*, Vol. 32, No. 1, Jan. 2002.
- (65) Chunming Qiao*, Hongyi Wu, and Ozan Tonguz, "Load Balancing via Relay in Next Generation Wireless Systems", in *IEEE MobiHoc'00*, pp.149-150, Boston, MA, August 7-11, 2000.