

Course Reading List

Tips on How to Read a Research Paper

Don’t just read it; fight it! Ask your own questions, look for your own examples, discover your own proofs. Is the hypothesis necessary? Is the converse true? What happens in the classical special case? What about the degenerate cases? Where does the proof use the hypothesis? — Paul Halmos, *I Want to Be a Mathematician*, 1985.

In scientific work it is not enough to be able to solve one’s problems. One must also turn these problems around and find out what problems one has solved. It is frequently the case that, in solving a problem, one has automatically given the answer to another, which one has not even considered in the same connection. —Norbert Wiener, *I Am a Mathematician, The Later Life of a Prodigy*

Read creatively: Reading a paper critically is easy, in that it is always easier to tear something down than to build it up. Reading creatively involves harder, more positive thinking. What are the good ideas in this paper? Do these ideas have other applications or extensions that the authors might not have thought of? Can they be generalized further? Are there possible improvements that might make important practical differences? If you were going to start doing research from this paper, what would be the next thing you would do? — Michael Mitzenmacher & Norman Ramsey, *How to Read a Research Paper*, 2000.

Note: ♦ Technical Papers for Student Presentations.

1 Introduction to MANETs, WSNs and WMNs

- C. E. Perkins, *Ad Hoc Networking*, Addison-Wesley, 2001.
- C. R. Murthy and B. S. Manoj, *Ad Hoc Wireless Networks: Architectures and Protocols*, Prentice Hall, 2004.
- H. Karl and A. Willig, *Protocols and Architectures for Wireless Sensor Networks*, John Wiley & Sons, 2005.
- I.F. Akyildiz, W. Su, Y. Sankarasubramaniam and E. Cayirci, “Wireless Sensor Networks: A Survey,” *Computer Networks Journal* (Elsevier), vol. 38, no. 4, pp. 393-422, Mar. 2002.
- I.F. Akyildiz and I.H. Kasimoglu, “Wireless Sensor and Actor Networks: Research Challenges,” *Ad Hoc Networks Journal* (Elsevier), Vol. 2, pp. 351-367, Oct. 2004.
- I.F. Akyildiz, X. Wang, and W. Wang, “Wireless Mesh Networks: A Survey,” *Computer Networks Journal* (Elsevier), vol. 47, no. 4, pp. 445-487, Mar. 2005.

2 Mobile Ad Hoc Networks (MANETs)

2.1 Medium Access Control (MAC) Protocols for MANETs

[Survey Papers]

- C. R. Murthy and B. S. Manoj, *Ad Hoc Wireless Networks: Architectures and Protocols*, Chap. 6, Prentice Hall, 2004.
- H. Zhai, J. Wang, X. Chen, and Y. Fang, “Medium Access Control in Mobile Ad Hoc Networks: Challenges and Solutions,” *Wireless Communications and Mobile Computing* (Special issue on Ad Hoc Networks), vol. 6, issue 2, pp. 151-170, March 2006.

[Capacity]

- F. Xue and P. R. Kumar, *Scaling Laws for Ad Hoc Wireless Networks: An Information Theoretic Approach*, NOW Publishers, Delft, The Netherlands, 2006. (Free online version is available at http://black.csl.uiuc.edu/~prkumar/ps_files/06-07-18-scaling-laws.pdf)
- ◇ P. Gupta and P. R. Kumar, “The capacity of wireless networks,” *IEEE Transactions on Information Theory*, 46(2): 388-404, March 2000.
- ◇ M. Grossglauser and D. Tse, “Mobility Increases the Capacity of Ad Hoc Wireless Networks,” *IEEE/ACM Trans. on Networking*, vol 10, no 4, August 2002. (Conf version: M. Grossglauser and D. Tse, “Mobility Increases the Capacity of Ad Hoc Wireless Networks,” *IEEE INFOCOM*, Anchorage, Alaska, April 2001)
- ◇ S. Yi, Y. Pei and S. Kalyanaraman, “On the Capacity Improvement of Ad Hoc Wireless Networks Using Directional Antennas,” In *ACM MobiHoc’03*, June 1-3, 2003.
- ◇ B. Liu, Z. Liu and D. Towsley, “On the Capacity of Hybrid Wireless Networks,” In *IEEE InfoCom’03*, 2003.
- ◇ A. Bader and E. Ekici, “Throughput and Delay Optimization in Interference-Limited Multihop Networks,” In *MobiHoc’06*.

[Contention-Based MAC Protocols]

- P. Brenner, “A Technical Tutorial on the IEEE 802.11 protocol,” *BreezeCOM Wireless Communications*, 1997.
- IEEE 802.11 Working Group. *Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications*. 1999.
- ◇ V. Kanodia, C. Li, A. Sabharwal, B. Sadeghi and E. Knightly, “Ordered Packet Scheduling in Wireless Ad Hoc Networks: Mechanisms and Performance Analysis,” In *Proceedings of ACM MOBIHOC 2002*, Lausanne, Switzerland, June 2002.

- ◇ H. Zhai, J. Wang, and Y. Fang, "DUCHA: A Dual-Channel MAC Protocol for Mobile Ad Hoc Networks," *IEEE Transactions on Wireless Communications*, vol. 5, no. 11, Nov. 2006.
- ◇ B. Sadeghi, V. Kanodia, A. Sabharwal, E. W. Knightly, "Opportunistic Media Access for Multirate Ad Hoc Networks," In *Proceedings of Mobicom'02*, 2002.
- ◇ M. Heusse, F. Rousseau, R. Guillier and A. Duda, "Idle Sense: An Optimal Access Method for High Throughput and Fairness in Rate Diverse Wireless LANs," In *SigComm'06*.

[Contention-Free MAC Protocols]

- ◇ L. Hu, "Distributed Code Assignments for CDMA Packet Radio Networks," *IEEE/ACM Transactions on Networking*, Vol. 1, No. 6, Dec. 1993.
- ◇ A. Muqattash, M. Krunz, "CDMA-based MAC protocol for wireless ad hoc networks," In *MobiHoc'03*.

[Multi-Rate MAC Protocols]

- ◇ G. Holland, N. Vaidja, and P. Bahl, "A Rate-Adaptive MAC Protocol for Wireless Networks," In *MobiCom'01*.
- ◇ S.H.Y. Wong, H. Yang, S. Lu and V. Bharghavan, "Robust Rate Adaptation in 802.11 Wireless Networks," In *MobiCom'06*.
- ◇ P. Chaporkar, A. Bhat and S. Sarkar, "An Adaptive Strategy for Maximizing Throughput in MAC Layer Wireless Multicast," In *MobiHoc'04*.
- ◇ B. Kim, Y. Fang, T. Wong and Y. Kwon, "Throughput enhancement through dynamic fragmentation in wireless LANs," *IEEE Transactions on Vehicular Technology*, Vol.54, No.4, pp. 1415-1425, July 2005.

[MAC Protocols Using Directional Antennas]

- ◇ R. Ramanathan, J. Redi, C. Santivanez, D. Wiggins and S. Polit, "Ad hoc networking with directional antennas: a complete system solution," *IEEE Journal on Selected Areas in Communications*, Vol. 23, No. 3, pp. 496 - 506, March 2005.
- ◇ Y.-B. KO, V. Shankarkumar and N.H. Vaidya, "Medium access control protocols using directional antennas in ad hoc networks," *IEEE INFOCOM*, 2000, Vol. 1, pp. 13-21.
- ◇ A. Nasipuri, S. Ye, J. You, and R.E. Hiromoto, "A MAC Protocol for Mobile Ad Hoc Networks Using Directional Antennas," *Wireless Communications and Networking Conference(WCNC)*, Vol. 3, 2000, pp. 1214-1219.

- ◇ R.R. Choudhury, N.H. Vaidya “On Designing MAC Protocols for Wireless Networks using Directional Antennas,” IEEE Transactions of Mobile Computing (TMC), Vol.5, No.5, May 2006 pp.477-49.
- ◇ R.R. Choudhury, N. Vaidya, “Deafness: A MAC Problem in Ad Hoc Networks when using Directional Antennas,” In 10th IEEE International Conference on Network Protocols (ICNP), 2004.

[Multichannel MAC Protocols]

- J. Mo, H. So and J. Walrand, “Comparison of multichannel MAC protocols,” MSWiM05, Oct 10-13, 2005
- ◇ A. Nasipuri, J. Zhuang and S.R. Das, “A multichannel CSMA MAC protocol for multihop wireless networks, ” Wireless Communications and Networking Conference, 1999. WCNC. 1999 IEEE, 21-24 Sept. 1999.
- ◇ J. Shi, T. Salonidis and E. W. Knightly, “Medium access control: Starvation mitigation through multi-channel coordination in CSMA multi-hop wireless networks,” In MobiHoc’06.
- ◇ J. So and N. Vaidya, “MultiChannel MAC for Ad Hoc Networks: Handling Multi-Channel Hidden Terminals Using A Single Transceiver,” In MobiHoc’04.
- ◇ A. Mishra, V. Shrivastava, D. Agrawal and S. Banerjee, “Distributed Channel Management in Uncoordinated Wireless Environments,” In Mobicom’06.
- ◇ R. Vedantham, S. Kakumanu, S. Lakshmanan and R. Sivakumar, “Component based channel assignment in single radio, multi-channel ad hoc networks,” In Mobicom’06.

2.2 Routing protocols for MANETs

[Survey Papers]

- 2. X. Hong, K. Xu, and M. Gerla, “Scalable Routing Protocols for Mobile Ad Hoc Networks,” IEEE Network, Jul/Aug 2002.
- E. Royer and C.-K. Toh, “A review of current routing protocols for Ad Hoc mobile wireless networks,” IEEE Personal Communications, 1999.
- C. E. Perkins, *Ad Hoc Networking*, Chap. 3-8, Addison-Wesley, 2001.
- C. R. Murthy and B. S. Manoj, *Ad Hoc Wireless Networks: Architectures and Protocols*, Chap. 7-8, Prentice Hall, 2004.

[Pro-Active (Table-Driven) Routing Protocols]

- ◇ C. Perkins and P. Bhagwat, “Highly Dynamic Destination-Sequenced Distance-Vector Routing (DSDV) for Mobile Computers,” Computer Communications Review, October 1994.

- ◇ S. Murthy and J. J. Garcia-Luna-Aceves, “An Efficient Routing Protocol for Wireless Networks,” *ACM Mobile Networks and Applications Journal*, Special Issue on Routing in Mobile Communication Networks, pp. 183-197, October 1996.
- ◇ J. J. Garcia-Luna-Aceves and M. Spohn, “Source-Tree Routing in wireless Networks,” In *ICNP’99*.
- ◇ P. Jacquet, P. Muhlethaler, A. Qayyum, A. Laouiti, L. Viennot and T. Clausen, “Optimized Link State Routing Protocol (OLSR),” RFC 3626. <http://www.olsr.net/>, <http://www.olsr.org/>
- ◇ T.W. Chen and M. Gerla, “Global State Routing: A New Routing Scheme for Ad Hoc Wireless Networks,” In *ICC’98*.

[Reactive (On-Demand) Routing Protocols]

- ◇ D. B. Johnson and D. A. Maltz, “Dynamic Source Routing in Ad-Hoc Wireless Networks,” *Mobile Computing*, ed. T. Imielinski and H. Korth, Kluwer Academic Publishers, pp. 153-181, 1996.
- ◇ C. E. Perkins and E. M. Royer, “Ad-hoc On-Demand Distance Vector Routing,” *Proceedings of 2nd IEEE Workshop on Mobile Computing Systems and Applications*, February 1999.
- ◇ C. E. Perkins, P. Bhagwat, “Highly Dynamic Destination-Sequenced Distance Vector (DTDV) for Mobile Computers,” *Proc. of the SIGCOMM 1994 Conference on Communications Architectures, Protocols and Applications*, Aug 1994, pp. 234-244.
- ◇ C-K. Toh, “Associativity-Based Routing for Ad-Hoc Mobile Networks,” *Wireless Personal Communications*, Vol. 4, No. 2, pp. 1-36, March 1997.
- ◇ R. Dube, C. D. Rais, K.-Y. Wang, and S.K. Tripathi, “Signal Stability based Adaptive Routing (SSA) for Ad-Hoc Mobile Networks,” *IEEE Personal Communications*, pp. 36-45, February 1997.

[Hybrid (Pro-Active/Reactive) Routing Protocols]

- ◇ P. Sivakumar, R. Sinha and V. Bharghavan, “CEDAR: A Core-Extraction Distributed Routing Algorithm,” *IEEE JSAC*, special issue on ad-hoc networks, 17(8), Aug. 1999.
- ◇ Z. J. Haas, “The Routing Algorithm for the Reconfigurable Wireless Networks,” *Proceedings of ICUPC 1997*.
- ◇ Z. J. Hass, M.R. Perlman and P. Samar, “The Zone Routing Protocol (ZRP) for Ad Hoc Networks,” *Internet Draft*, <http://www.ietf.org/proceedings/02nov/I-D/draft-ietf-manet-zone-zrp-04.txt>, work in progress, July 2002.

- ◇ M. Joa-Ng and I. Lu, “A Peer-to-Peer Zone Based Two-Level Link State Routing for Mobile Ad Hoc Networks,” *IEEE Journal on Selected Areas in Communications*, vol. 17, no. 8, pp. 1415-1425, Aug. 1999.

[Hierarchical Routing Protocols]

- ◇ M. Gerla, G. Pei, X. Hong, T.-W. Chen, “Fisheye State Routing Protocol (FSR) for Ad Hoc Networks,” Internet Draft, draft-ietf-manet-fsr-00.txt, work in progress, June 2001.
- ◇ P. Sinha, R. Sivakumar, V. Bharghavan, “CEDAR: A Core-Extraction Distributed Ad Hoc Routing Algorithm,” In *InfoCom’99*.
- ◇ J. Eriksson, M. Faloutsos, and S. Krishnamurthy, “Scalable Ad Hoc Routing: The Case for Dynamic Addressing,” In *InfoCom’04*.
- ◇ N. Nikaein, H. Labiod and C. Bonnet, “Distributed Dynamic Routing Algorithm (DDR) for Mobile Ad Hoc Networks,” In *MobiHoc’00*.
- ◇ A. Iwata, C. C. Chiang, G. Pei, M. Gerla and T.W. Chen, “Scalable Routing Strategies for Ad Hoc Wireless Networks,” *IEEE Journal on Selected Areas in Communications*, Vol. 17, No. 8, 1999.

[Geographic Routing Protocols]

- ◇ P. Bose, P. Morin, I. Stojmenovic and J. Urrutia, “Routing with guaranteed delivery in ad hoc wireless networks,” *ACM DIALM ’99: Proceedings of the 3rd international workshop on Discrete algorithms and methods for mobile computing and communications*, Seattle, Washington, United States, pages 48-55, 1999. Also, *ACM Wireless Networks*, 7, 6, Nov. 2001, 609-616.
- ◇ B. Karp and H.T. Kung, “GPSR: Greedy Perimeter stateless Routing for Wireless Networks,” *ACM Mobicom’00*, August 2000.
- ◇ S. Basagni, I. Chlamtac, V. R. Syrotiuk, B. A. Woodward, “A Distance Routing Effect Algorithm for Mobility (DREAM),” In *Proc. ACM/IEEE Mobicom*, 1998.
- ◇ Y.-B. Ko and N. H. Vaidya, “Location-Aided Routing(LAR) in mobile Ad hoc networks,” In *Proc. ACM/IEEE Mobicom* 1998.
- ◇ T. He, J. A. Stankovic, C. Lu and T. F. Abdelzaher, “SPEED: A Stateless Protocol for Real-Time Communication in Ad Hoc Sensor Networks,” *IEEE ICDCS*, 2003.
- ◇ Rao, S. Ratnasamy, C. Papadimitriou, S. Shenker and I. Stoica, “Geographic Routing without Location Information,” *ACM MobiCom*, 2003.
- ◇ K. Seada, M. Zuniga, A. Helmy, B. Krishnamachari, “Energy-Efficient Forwarding Strategies for Geographic Routing in Lossy Wireless Sensor Networks,” *ACM Sensys*, November 2004.

[Multicast Routing Protocols]

- ◇ P. Sinha, R. Sivakumar, and V. Bharghavan, “MCEDAR: multicast core extraction distributed ad hoc routing,” IEEE Wireless Commun. and Net. Conf. (WCNC), Sept. 1999, pp. 1313C17.
- ◇ J. J. Garcia-Luna-Aceves, E. L. Mada-uga, “The core assisted mesh protocol,” IEEE JSAC, Vol 17, No. 8, August 1999, pp.1380-1394.
- ◇ K. Chen and K. Nahrstedt, “Effective location-guided tree construction algorithms for small group multicast in MANET,” In Proc. of INFOCOM, 2002, pp. 1180C89.
- ◇ L. Ji, and M. S. Corson, “Differential destination multicast - A MANET multicast routing protocol for small groups,” In Proc. of IEEE INFOCOM 2001: 1192-1202.
- ◇ J. Xie, R. Talpade, T. McAuley, and M. Liu, “AMRoute: Ad hoc multicast routing Protocol,” ACM Mobile Networks and Applications (MONET) Journal, 7(6): 429-439, Dec 2002.
- ◇ E. M. Royer and C. E. Perkins, “Multicast operation of the ad hoc on demand distance vector routing protocol,” In Proc. of ACM MOBICOM, Aug. 1999, pp. 207C18.
- ◇ M. Gerla, C-C. Chiang, and L. Zhang, “Tree multicast strategies in mobile, multi-hop wireless networks,” ACM/Baltzer Journal of Mobile Networks and Applications (MONET), 1999.

2.3 Transport Protocols and Congestion Control for MANETs

- X. Chen, H. Zhai, J. Wang, and Y. Fang, “A Survey on Improving TCP Performance over Wireless Networks,” in: Resource Management in Wireless Networking (Springer Network Theory and Applications Series, Vol. 16), edited by M. Cardei, I. Cardei and D.-Z. Du, pp. 657-695, Kluwer Academic Publishers/Springer, 2005.
- C. R. Murthy and B. S. Manoj, *Ad Hoc Wireless Networks: Architectures and Protocols*, Chap. 9, Prentice Hall, 2004.
- ◇ G. Holland and N. Vaidya, “Analysis of TCP Performance over Mobile Ad Hoc Networks,” Proceedings of ACM MOBICOM 1999, pp. 219-230, August 1999.
- ◇ K. Chandran, S. Raghunathan, S. Venkatesan and R. Prakash, “A Feedback-Based Scheme for Improving TCP Performance in Ad Hoc Wireless Networks,” IEEE Personal Communications Magazine, vol. 8, no. 1, pp. 34-39, February 2001.
- ◇ D. Kim, C. K. Toh, and Y. Choi, “TCP-BuS: Improving TCP Performance in Wireless Ad Hoc Networks,” Journal of Communications and Networks, vol. 3, no. 2, pp. 1-12, June 2001.
- ◇ J. Liu and S. Singh, “ATCP: TCP for Mobile Ad Hoc Networks,” IEEE Journal on Selected Areas in Communications, vol. 19, no. 7, pp. 1300-1315, July 2001.

- ◇ S. Kopparty, S. V. Krishnamurthy, M. Faloutsos and S. K. Tripathi, “Split TCP for Mobile Ad Hoc Networks,” Proceedings of IEEE GLOBECOM 2002, vol. 1, pp. 138-142, November 2002.
- ◇ J. Liu and S. Singh, “ATCP: TCP for Mobile Ad Hoc Networks,” IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, VOL. 19, NO. 7, JULY 2001.
- ◇ K. Sundaresan, V. Anantharaman, H. Y. Hsieh, and R. Sivakumar, “ATP: A Reliable Transport Protocol for Ad Hoc Networks,” Proceedings of ACM MOBIHOC 2003, pp. 64-75, June 2003.
- ◇ K. Nahm, A. Helmy and C.-C. J. Kuo, “TCP over Multihop 802.11 Networks: Issues and Performance Enhancement,” In MobiHoc’05.
- ◇ S. M. ElRakabawy, A. Klemm and C. Lindemann, “TCP with Adaptive Pacing for Multihop Wireless Networks,” In MobiHoc’05.

2.4 Cross-layer Design for MANETs

- V. Srivastava and M. Motani, “Cross-layer design: a survey and the road ahead,” IEEE Communications Magazine, Vol.43, No.12, Dec. 2005, pp.112-119.
- V. Kawadia and P. R. Kumar, “A Cautionary Perspective on Cross Layer Design,” IEEE Wireless Commun., vol. 12, no. 1, Feb. 2005, pp. 3C11.
- ◇ X. Lin, N. B. Shroff, R. Srikant, “A Tutorial on Cross-Layer Optimization in Wireless Networks,” IEEE Journal on Selected Areas in Communications, vol. 24, Issue 8, June 2006, pp. 1452-1463.
- ◇ H. Zhai and Y. Fang, “Distributed Flow Control and Medium Access Control in Mobile Ad Hoc Networks,” IEEE Transactions on Mobile Computing, vol. 5, no. 11, pp. 1503-1514, Nov. 2006.
- ◇ H. Zhai and Y. Fang, “Impact of Routing Metrics on Path Capacity in Multirate and Multihop Wireless Ad Hoc Networks,” IEEE ICNP’06, 2006.
- ◇ R. Bhatia and M. Kodialam, “On Power Efficient Communication over Multi-hop Wireless Networks: Joint Routing, Scheduling and Power Control,” IEEE INFOCOM 2004.
- ◇ X. Lin and N. B. Shroff, “The Impact of Imperfect Scheduling on Cross-Layer Congestion Control in Wireless Networks,” IEEE/ACM Trans. on Networking, vol. 14, no. 2, April 2006, pp. 302-315 (invited for fast-track review from IEEE INFOCOM’06).
- ◇ Y. Wu, P.A. Chou, Q. Zhang, K. Jain, W. Zhu and S.Y. Kung, “Network planning in wireless ad hoc networks: a cross-Layer approach,” IEEE Journal on Selected Areas in Communications, Vol.23, No.1, Jan. 2005, pp.136-150.

- ◇ H. Zhai, X. Chen and Y. Fang, “WCCP: improving transport layer performance in multihop ad hoc networks by exploiting MAC layer information,” Accepted for publication in IEEE Transactions on Wireless Communications.
- ◇ J. Wang, H. Zhai, Y. Fang, J. Shea and D. Wu, “OMAR: utilizing multiuser diversity in wireless ad hoc networks,” IEEE Transactions on Mobile Computing, Vol.5, No.12, pp.1764-1779, December 2006.
- R. Bhatia and M. Kodialam, “On Power Efficient Communication over Multi-hop Wireless Networks: Joint Routing, Scheduling and Power Control,” IEEE INFOCOM 2004.

2.5 Security Issues in MANETs

[Reference Books for Cryptography and Network Security]

- A.J. Menezes, P.C. van Oorschot, and S.A. Vanstone, *Handbook of Applied Cryptography*, CRC, 1996. (Free online version is available)
- C. Kaufman, R. Perlman, and M. Speciner, *Network Security: Private Communication in a Public World*, Prentice Hall, 2 edition, 2002.
- C. Boyd and A. Mathuria, *Protocols for Authentication and Key Establishment*, Springer, 2003.
- L. Buttyan and J.-P. Hubaux, *Security and Cooperation in Wireless Networks: Thwarting Malicious and Selfish Behavior in the Age of Ubiquitous Computing*, Cambridge University Press, 2007. (Free online version is available)

[References for ID-Based Cryptography]

- K. G. Paterson, “Cryptography from pairings: a snapshot of current research,” Information Security Technical Report, Vol. 7(3):41-54, 2002.
- R. Dutta, R. Barua and P. Sarkar, “Pairing-Based Cryptographic Protocols: A Survey,” eprint.iacr.org/2004/064.pdf.

[Survey Papers]

- W. Lou and **Y. Fang**, “A survey on wireless security in mobile ad hoc networks: challenges and possible solutions,” in: *Ad Hoc Wireless Networking* (Springer Network Theory and Applications Series, Vol. 14), edited by X. Chen, X. Huang and D.-Z. Du, Kluwer Academic Publishers/Springer, 2004.
- H. Yang, H. Y. Luo, F. Ye, S. W. Lu, and L. Zhang, “Security in mobile ad hoc networks: Challenges and solutions,” IEEE Wireless Communications. 11(1), pp. 38-47, 2004.
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- Y. C. Hu and A. Perrig, “A Survey of Secure Wireless Ad Hoc Routing,” *IEEE Security and Privacy*, 2(3):28C39, May-June 2004.
- H. Deng, W. Li, and D. P. Agrawal, “Routing Security in Wireless Ad Hoc Networks,” *IEEE Communications Magazine*, vol. 40, no. 10, pp. 70-75, October 2002.

[Key Management]

- L. Zhou and Z. J. Haas, “Securing Ad Hoc Networks,” *IEEE Network Magazine*, vol. 13, no. 6, pp. 24-30, December 1999.
- ◇ S. Capkun, L. Buttyan, and J. P. Hubaux, “Self-Organized Public-Key Management for Mobile Ad Hoc Networks,” *IEEE Transactions on Mobile Computing*, vol. 2, no. 1, pp. 52-64, January-March 2003.

[Secure Routing]

- ◇ Y. Hu, A. Perrig, and D. B. Johnson, “Packet Leashes: A Defense Against Wormhole Attacks in Wireless Ad Hoc Networks,” *Proceedings of IEEE INFOCOM 2003*, vol. 3, pp. 1976-1986, April 2003.
- ◇ B. Awerbuch, D. Holmer, C. Nita-Rotaru and H. Rubens, “An On-Demand Secure Routing Protocol Resilient to Byzantine Failures,” *Proceedings of the ACM Workshop on Wireless Security (WISE’02)*, pp. 21-30, September 2002.
- ◇ Y. Hu, A. Perrig, and D. B. Johnson, “Rushing Attacks and Defense in Wireless Ad Hoc Network Routing Protocols,” *Proceedings of the ACM Workshop on Wireless Security (WISE’03)*, pp.30-40, September 2003.
- ◇ S. Yi, P. Naldurg, and R. Kravets, “Security-Aware Ad Hoc Routing for Wireless Networks,” *Proceedings of ACM MOBIHOC 2001*, pp. 299-302, October 2001.
- ◇ K. Sanzgiri, B. Dahill, B. N. Levine, C. Shields, and E. M.B. Royer, “A Secure Routing Protocol for Ad Hoc Networks,” *Proceedings of IEEE ICNP 2002*, pp. 78-87, November 2002.
- ◇ P. Papadimitratos and Z. J. Haas, “Secure Routing: Secure Data Transmission in Mobile Ad Hoc Networks,” *Proceedings of ACM Workshop on Wireless Security (WISE’03)*, pp. 41-50, September 2003.
- ◇ Y. Hu, A. Perrig, and D. B. Johnson, “Ariadne: A Secure On-Demand Routing for Ad Hoc Networks,” *Proceedings of ACM MOBICOM 2002*, pp. 12-23, September 2002.

[Anonymous Routing]

- ◇ J. Kong and X. Hong, “ANODR: anonymous on demand routing with untraceable routes for mobile ad-hoc networks,” In *Proceedings of the 4th ACM International Symposium on Mobile Ad hoc Networking and Computing (MobiHoc 2003)*, pages 291-302. ACM Press, 2003.

- ◇ Y. Zhang, W. Liu, W. Lou and Y. Fang, “MASK: anonymous on-demand routing in mobile ad hoc networks,” *IEEE Transactions on Wireless Communications*, Vol.5, No.9, pp.2376-2385, September 2006.

3 Wireless Sensor Networks (WSNs)

3.1 Power-Efficient MAC Protocols for WSNs

- H. Karl and A. Willig, *Protocols and Architectures for Wireless Sensor Networks*, Chap. 5, John Wiley & Sons, 2005.
- I. Demirkol, C. Ersoy, and F. Alagoz, “MAC Protocols for Wireless Sensor Networks: A Survey,” *IEEE Communications Magazine*, April 2006.
- ◇ W. Ye, J. Heidemann, D. Estrin, “An Energy-Efficient MAC Protocol for Wireless Sensor Networks,” In *IEEE INFOCOM* 2002.
- ◇ W. Ye, J. Heidemann, and D. Estrin, “Medium Access Control with Coordinated Adaptive Sleeping for Wireless Sensor Networks,” *IEEE/ACM Trans. on Networking*, vol. 12, no. 3, June 2004, pp. 493C506.
- C. C. Enz et al., “WiseNET: An Ultralow-Power Wireless Sensor Network Solution,” *IEEE Computer*, vol. 37, no. 8, Aug. 2004.
- ◇ V. Rajendran, K. Obraczka, and J.J. Garcia-Luna-Aceves, “Energy-Efficient, Collision-Free Medium Access Control for Wireless Sensor Networks,” *Proc. ACM SenSys’03*, Los Angeles, CA, Nov. 2003, pp. 181C92.
- ◇ K. Jamieson, H. Balakrishnan, and Y. C. Tay, “Sift: A MAC Protocol for Event-Driven Wireless Sensor Networks,” *MIT Lab. Comp. Sci.*, Tech. rep. 894, May 2003, available at <http://www.lcs.mit.edu/publications/pubs/pdf/MIT-LCS-TR-894.pdf>
- ◇ Y. C. Tay, K. Jamieson and H. Balakrishnan, “Collision- Minimizing CSMA and Its Applications to Wireless Sensor Networks,” *IEEE JSAC*, vol. 22, no. 6, Aug. 2004, pp. 1048C57.
- ◇ A. Woo and D. Culler, “A Transmission Control Scheme for Media Access in Sensor Networks,” In *Mobicom* 2001.

3.2 Routing and Data Dissemination in WSNs

[Survey]

- Al-Karaki, J. N. and A. E. Kamal, ”Routing Techniques in Wireless Sensor Networks: A Survey”, *IEEE Wireless Communications*, vol.11, no. 6, Dec. 2004

[Location-Free Routing]

- ◇ A. Rao, C. Papadimitiou, S. Shenker and Stoica, “Geographical routing without location information,” In ACM MobiCom 2003.
- ◇ Q. Fang, J. Gao, L. Guibas, V. de Silva, and L. Zhang, “GLIDER: Gradient Landmark-Based Distributed Routing for Sensor Networks,” In IEEE INFOCOM 2005.
- ◇ R. Fonseca, S. Ratnasamy, J. Zhao, C.T. Ee, D. Collier, S. Shenker, and I. Stoica, “Beacon Vector Routing: Scalable Point-to-Point Routing in Wireless Sensornets,” In NSDI 2005: 2nd Symposium on Networked Systems Design and Implementation, Boston, Massachusetts, May 2005.
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