

REFERENCES

- Abbasi, A.A. & Younis, M., 2007. A survey on clustering algorithms for wireless sensor networks. *Computer Communications*, 30, p.2826–2841.
- Abolhasan, M., Wysocki, T.A. & Dutkiewicz, E., 2004. A review of routing protocols for mobile ad hoc networks. *Journal of Ad Hoc Networks*, 2, pp.1-22.
- Akkaya, K. & Younis, M., 2003. A survey on routing protocols for wireless sensor networks. *Elsevier Journal of Ad Hoc Networks*, 3(3), pp.325-49.
- Akkaya, K., Younis, M. & Bangad, M., 2005. Sink repositioning for enhanced performance in wireless sensor networks. *Computer Networks*, 49, pp.512-34.
- Akyildiz, I.F. & Kasimoglu, I.H., 2004. Wireless sensor and actor networks: research challenges. *Ad Hoc Networks*, 2, pp.351-67.
- Akyildiz, I., Su, W., Sankarasubramaniam, Y. & Cayirci, E., 2002. Wireless sensor networks: A survey. *Computer Networks Journal*, 38(4), pp.393-422.
- Aldosari, S.A. & Moura, J.M.F., 2005. Distributed Detection in Sensor Networks: Connectivity Graph and Small World Networks. In *Conference Record of the Thirty-Ninth Asilomar Conference on Signals, Systems and Computers.*, 2005.
- Al-Karaki, N. & Kamal, A.E., 2004. Routing Techniques in Wireless Sensor Networks: A Survey. *IEEE Wireless Communication*, 11, pp.6-28.
- Aspnès, J., Goldenberg, D. & Yang, Y.R., 2004. On the computational complexity of sensor network localization. In *Lecture Notes in Computer Science*. Turku, Finland: Springer-Verlag. pp.32-44.
- Ben Saad, L. & Tourancheau, B., 2009. Towards an Efficient Positioning of Mobile Sinks in Wireless Sensor Networks inside Buildings. In *3rd International Conference on New Technologies, Mobility and Security (NTMS).*, 2009.
- Ben-Haim, Y., 2006. *Info-Gap Decision Theory: Decisions under severe uncertainty*. 2nd ed. Elsevier.

- Ben-Haim, Y., 2010. *Info-Gap Decision Theory: Decisions under severe uncertainty*. [Online] Available at: <http://www.info-gap.com> [Accessed 22 October 2010].
- Biswas, P., Lian, T., Wang, T. & Ye, Y., 2006. Semidefinite programming based algorithms for sensor network localization. *ACM Transactions on Sensor Networks*, 2(2), p.188–220.
- Bouhafs, F., Merabti, M. & Mokhtar, H., 2006. A coordination protocol for wireless sensor networks. In *Proceedings of The 7th Annual PostGraduate Symposium on The Convergence of Telecommunications, Networking and Broadcasting, Computing and Mathematical sciences*. Liverpool John Moores university, UK., 2006.
- Bulusu, N., Estrin, D., Girod, L. & Heidemann, J., 2001. Scalable Coordination for Wireless Sensor Networks: Self-Configuring Localization Systems. In *Proceedings of the Sixth International Symposium on Communication Theory and Applications.*, 2001.
- Chen, M., Leung, V.C.M. & Mao, S., 2009. Directional Controlled Fusion in Wireless Sensor Networks. *Mobile Networks and Applications (ACM/Springer)*, 14(2), pp.220-29.
- Chen, Y.S., Tseng, Y.C., Ni, S.Y. & Sheu, J.P., 2002. The broadcast storm problem in a mobile ad hoc network. *Wireless Networks*, 8(2), pp.153-67.
- Cheong, M.P., Berleant, D. & Sheblé, G.B., 2008. Information Gap Decision Theory as a tool for Strategic Bidding in Competitive Electricity Markets. In *Proceedings of the 8th International Conference on Probabilistic Methods Applied to Power Systems*. Iowa State University, Ames, Iowa, 2008.
- Chong, C.-Y. & Kumar, S.P., 2003. Sensor networks: Evolution, opportunities, and challenges. *Proceedings of the IEEE*, 91(8), pp.1247-56.
- Culler, D., Estrin, D. & Srivastava, M., 2004. Guest Editors' Introduction: Overview of sensor networks. *Computer*, 37(8), pp.41-49.
- Demirbas, M., 2007. A transactional framework for programming wireless sensor/actor networks. In *Proceedings of the 11th IEEE International Workshop on Future Trends of Distributed Computing Systems.*, 2007.

- Duncan, S.J., Bras, B. & Paredis, C.J.J., 2008. An Approach to Robust Decision Making under Severe Uncertainty in Life-Cycle Design. *International Journal of Sustainable Design*, 1(1), pp.45-59.
- Faheem, Y., Boudjit, S. & Chen, K., 2009. Data dissemination strategies in mobile sink Wireless Sensor Networks: A survey. In *Proceedings of the 2nd IFIP conference on Wireless days (WD'09)*, 2009. IEEE Press.
- Farahani, S., 2008. *ZigBee wireless networks and transceivers (Chapter 7: Location Estimation Methods, page 225)*. Newnes.
- Francesco, M.D., Das, S.K. & Anastasi, G., 2011. Data Collection in Wireless Sensor Networks with Mobile Elements: A Survey. *ACM Transactions on Sensor Networks*, 8(1), pp.7:1-7:31.
- Gilb, J.P.K., 2005. *The Wireless Dictionary*. IEEE Standards Wireless Series.
- Gu, Y., Bozdog, D., Brewer, R.W. & Ekici, E., 2006. Data harvesting with mobile elements in wireless sensor networks. *Computer Networks*, 50(17), p.3449–3465.
- Guidoni, D.L., Mini, R.A.F. & Loureiro, A.A.F., 2008. On the design of heterogeneous sensor networks based on small world concepts. In *International workshop on modeling analysis and simulation of wireless and mobile systems. Proceedings of the 11th international symposium on Modeling, analysis and simulation of wireless and mobile systems*. Vancouver, British Columbia, Canada, 2008.
- Hamida, E.B. & Chelius, G., 2008. Strategies for data dissemination to mobile sinks in wireless sensor networks. *IEEE Wireless Communications* , 15(6), pp.31--37.
- Heinzelman, W., Chandrakasan, A. & Balakrishnan, H., 2000. Energy-efficient communication protocol for wireless sensor networks. In *Proceedings of the Hawaii International Conference on System Sciences*. Hawaii, 2000.
- Heinzelman, W.B., Chandrakasan, A.P. & Balakrishnan, H., 2002. An Application Specific Protocol Architecture for Wireless Microsensor Networks. *IEEE Transactions on Wireless Communications*, 1(4), pp.660-70.

- Heinzelman, W., Kulik, J. & Balakrishnan, H., 1999. Adaptive protocols for information dissemination in wireless sensor networks. In *Proceedings of 5th ACM/IEEE Mobicom*. Seattle, 1999.
- Helmy, A., 2003. Small worlds in wireless networks. *IEEE Communications Letters*, 7(10), pp.490-92.
- Hou, Y.T., Shi, Y. & Serali, H.D., 2008. Rate allocation and network lifetime problems for wireless sensor networks. *IEEE/ACM Transactions on Networking*, 16(2), pp.321-34.
- Huang, X., Zhai, & Fang, , 2008. Robust cooperative routing protocol in mobile wireless sensor networks. *IEEE Transactions on Wireless Communications*, 7(12), pp.5278- 5285.
- Kang, I. & Poovendran, R., 2005. Maximizing network lifetime of broadcasting over wireless stationary ad hoc networks. *Mobile Networks and Applications*, 10(6), pp.879-96.
- Karl, H. & Willig, A., 2005. *Protocols and Architectures for Wireless Sensor Networks*. 1st ed. Wiley.
AvailableOnline:http://books.google.co.za/books?id=Lq0DvvGdQ5wC&printsec=frontcover&source=gbs_v2_summary_r&cad=0#v=onepage&q=&f=false. Last accessed on 12 October 2009.
- Katz, M. & Shamaï, S., 2005. Transmitting to colocated users in wireless ad hoc and sensor networks. *IEEE Transactions on Information Theory*, 51(10), pp.3540-63.
- Kazem Sohraby, D.M.a.T.Z., 2007. *Wireless Sensor Networks: Technology, protocols, and applications*. New Jersey: John Wiley & Sons, Inc.
- Kleinberg, J., 2000. The small-world phenomenon: an algorithm perspective. In *Proceedings of the thirty-second annual ACM symposium on Theory of computing.*, 2000.
- Korpeoglu, I., 2007. Energy Efficient Routing. In N.P. Mahalik, ed. *Sensor Networks and Configuration: Fundamentals, standards, platforms and applications*. Springer. pp.167-88.
- Krishnamachari, B., 2005. *Networking Wireless Sensors*. Cambridge University Press.

- Lederer, S., Wang, Y. & Gao, J., May 2008. Connectivity-based localization of large scale sensor networks with complex shape. In *Proceedings of the 27th Annual IEEE Conference on Computer Communications (INFOCOM'08)*., May 2008.
- Lee, M. et al., January 2010. Meshing Wireless Personal Area Networks: Introducing IEEE 802.15.5. *IEEE Communications Magazine*, 48(1), pp.54-61.
- Lewis, F.L., 2004. *Wireless Sensor Networks: Smart Environments: Technologies, protocols, and applications*. New York: John Wiley.
- Ma, X. & Luo, W., 19-20 Dec. 2008. The analysis of 6LowPAN technology. In *Proceedings of the 2008 IEEE Pacific-Asia Workshop on Computational Intelligence and Industrial Application*., 19-20 Dec. 2008. IEEE.
- Mao, G., Fidan, B. & Anderson, B.D.O., 2007. Localisation. In N.P. Mahalik, ed. *Sensor Networks and Configuration: Fundamentals, standards, platforms and applications*. Springer-Verlag. pp.281-315.
- Marta, M. & Cardei, M., 23-26 June 2008. Using sink mobility to increase wireless sensor networks lifetime. In *Proceedings of the 9th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM'08)*., 23-26 June 2008.
- Melodia, T., Pompili, D., Gungor, V.C. & Akyildiz, I.F., 2005. A distributed coordination framework for wireless sensor and actor networks. In *Proceedings of the 6th ACM international symposium on mobile ad hoc networking and computing*. Urbana-Champaign, IL, USA, 2005.
- Melodia, T., Pompili, D., Gungor, V.C. & Akyildiz, I.F., 2007. Communication and coordination in wireless sensor and actor networks. *IEEE Transactions on Mobile Computing*, 6(10), pp.1116-29.
- Muqattash, A., Krunz, M. & Lee, S.-J., 2006. A perspective on the design of power control for mobile ad hoc networks. In R. Shorey, A. Ananda, M.C. Chan & W.T. Ooi, eds. *Mobile, Wireless, and Sensor Networks Technology, Applications, and Future Directions*. John Wiley & Sons, Inc.

- Newman, M.E.J., 2003. The structure and function of complex networks. *SIAM Review*, 45, pp.167-256.
- Ngai, E.C.H., Lyu, M.R. & Liu, J., 2006. A real-time communication framework for wireless sensor-actuator networks. In *Proceedings of the IEEE Aerospace Conference*. Big Sky, Montana, 2006.
- Niezen, G., Hancke, G.P., Rudas, I.J. & Horváth, L., 2007. Comparing wireless sensor network routing protocols. In *Proceedings of IEEE AFRICON.*, 2007.
- Nishiyama, H. et al., n.d. HYMN to Improve the Longevity of Wireless Sensor Networks. In *IEEE Globecom 2010*.
- Pan, J. et al., 2006. Optimal base-station locations in two-tiered wireless sensor networks. *IEEE Transactions on Mobile Computing*, 4(5), p.458–473.
- Pan, M.-S., Tsai, C.-H. & Tseng, Y.-C., November 2009. The orphan problem in ZigBee wireless networks. *IEEE Transactions on Mobile Computing*, 8(11), pp.1573-84.
- Patwari, N., Ash, J.N., Kyperountas, S. & Hero, A.O., 2005. Locating the nodes: Cooperative localization in wireless sensor networks. *IEEE Signal Processing Magazine*, 22(4), p.54–69.
- Patwari, N. & Kaser, S.K., 2011. Temporal link signature measurements for location distinction. *IEEE Transactions on Mobile Computing*, 10(3), pp.449-62.
- Polepalli, B. et al., 2009. Impact of IEEE 802.11n Operation on IEEE 802.15.4 Operation. In *Proceedings of the 2009 International Conference on Advanced Information Networking and Applications Workshops (WAINA '09)*. Washington, DC, USA, 2009. IEEE Computer Society.
- Pottie, G.J. & Kaiser, W.J., 2000. Wireless integrated network sensors. *Communications of the ACM*, 43(5), pp.51-58.
- Radev, D., 2008. *Small World Networks*. [Online] (www1.cs.columbia.edu/~coms6998/Notes/lecture7.pdf) [Accessed 5 August 2011].

- Regan, H.M. et al., 2005. Robust decision making under severe uncertainty for conservation management. *Ecological Applications*, 15(4), pp.1471-77.
- Rentalala, P., Musunuri, R., Gandham, S. & Saxena, U., 2002. UTDCS-33-02 *Survey of Sensor Networks*. Technical Report. University of Texas at Dallas.
- Romer, K. & Mattern, F., 2004. The design space of wireless sensor networks. *IEEE Wireless Communications*, 11(6), pp.54-61.
- Rossi, L.F., Li, K., Yackoski, J. & Shen, C.C., 2007. Slime mold inspired coordinations for wireless sensor actor networks. In *Proceedings of the First ACM workshop on sensor and actor networks.*, 2007.
- Savvides, A., Girod, L., Srivastava, M.B. & Estrin, D., 2004. Localization in sensor networks. In R.a.S. Znati, ed. *In Wireless Sensor Networks*. MA: Kluwer.
- Savvides, A., Han, C. & Srivastava, M., 2001. Dynamic fine-grained localization in ad-hoc networks of sensors. In *Proceedings of the 5th annual international conference on mobile computing and networking*. Rome, Italy, 2001.
- Sharma, G. & Mazumdar, R., 2005. Hybrid Sensor Networks: A small world. In *Proceedings of the 6th ACM international symposium on mobile ad hoc networking and computing.*, 2005.
- Somasundara, A.A., Kansal, A., Jea, D.D. & Estrin, D., 2006. Controllably mobile infrastructure for low energy embedded networks. *IEEE Transactions on Mobile Computing*, 5(8), pp.958-73.
- Turgut, D., Das, S.K. & Chatterjee, M., 2001. Longevity of Routes in mobile ad hoc networks. In *Proceedings of IEEE Vehicular Technology Conference*. Rhodes , Greece, 2001.
- Umar, M., Adeel, U. & Qamar, S., 2007. Routing Protocols. In N.P. Mahalik, ed. *Sensor Networks and Configuration: Fundamentals, standards, platforms and applications*. Springer. pp.143-66.

- Vupputuri, S., Rachuri, K.K. & Ram Murthy, C.S., 2010. Using mobile data collectors to improve network lifetime of wireless sensor networks with reliability constraints. *Journal of Parallel and Distributed Computing*, 70(7), pp.767-78.
- Wang, C. et al., 2006. A survey of transport protocols for wireless sensor networks. *IEEE Network*, 20(3), pp.34-40.
- Wang, W., Srinivasan, V. & Chua, K.-C., 2005. Using mobile relays to prolong the lifetime of wireless sensor networks. In *Proceedings of the 11th annual international conference on Mobile computing and networking (MobiCom '05)*. Cologne, Germany, 2005. ACM.
- Watts, D.J. & Strogatz, S.H., 1998. Collective dynamics of 'small-world' networks. *Nature*, 393(6684), pp.440-42.
- Wieselthier, J.E., Nguyen, G.D. & Ephremides, A., 2002. Energy-efficient broadcast and multicast trees in wireless. *Mobile Networks and Applications*, 7, p.481–492.
- Williams, B. & Camp, T., 2002. Comparison of broadcasting techniques for mobile ad hoc networks. In *Proceedings of ACM Symp. on Mobile Ad Hoc Networking and*. Lausanne, Switzerland, 2002.
- Xi, F. & Liu, Z., 2009. Small world topology-aware geographic routing in wireless sensor networks. In *International conference on communications and mobile computing.*, 2009.
- Yick, J., Mukherjee, B. & Ghosal, D., 2008. Wireless sensor network survey. *Computer Networks*, 52(12), pp.2292-330.
- Yoneki, E. & Bacon, J., September, 2005. *A survey of Wireless Sensor Network technologies: research trends and middleware's role*. Technical Report:UCAM-CL-TR-646. University of Cambridge, Computer Laboratory.
- Yuan, W., Wang, X. & Linnartz, J.-P.M.G., 15-15 Nov. 2007. A coexistence model of IEEE 802.15.4 and IEEE 802.11b/g. In *14th IEEE Symposium on Communications and Vehicular Technology*. Delft ,Benelux, 15-15 Nov. 2007.

Yu, C.W., Wu, T.-K., Chen, R.-H. & Jin, F.-W., 2008. A small-world routing protocol for wireless sensor networks. In *The 4th IEEE International Conference on Wireless Communications, Networking and Mobile Computing (WiCOM 2008)*., 2008.

Zhao, F. & Guibas, L., 2004. *Wireless Sensor Networks: An information processing approach*. The Morgan Kaufmann Series in Networking, Elsevier Inc.

Online: Available: http://books.google.co.za/books?id=BkaQkhkWGfoC&printsec=frontcover&source=gbs_v2_summary_r&cad=0#v=onepage&q=&f=false. Last accessed on 12 October 2009.