

REFERENCES

1. Kala, C.P., *Deluge, disaster and development in Uttarakhand Himalayan region of India: challenges and lessons for disaster management*. International Journal of Disaster Risk Reduction, 2014. **8**: p. 143-152.
2. Sridharan, R., et al., *Lessons from Kedarnath tragedy of Uttarakhand Himalaya, India*. Current Science, 2013. **105**(11): p. 1472.
3. Miranda, K., A. Molinaro, and T. Razafindralambo, *A survey on rapidly deployable solutions for post-disaster networks*. IEEE Communications Magazine, 2016. **54**(4): p. 117-123.
4. Gupta, S., B. Sahay, and P. Charan, *Relief Network Model for Efficient Disaster Management and Disaster Recovery*, in *Managing Humanitarian Logistics* 2016, Springer. p. 85-104.
5. Evans, J.B., et al., *The rapidly deployable radio network*. IEEE Journal on selected areas in communications, 1999. **17**(4): p. 689-703.
6. Ali, K.A. and H.T. Mouftah, *Wireless personal area networks architecture and protocols for multimedia applications*. Ad hoc networks, 2011. **9**(4): p. 675-686.
7. Misra, S., M.P. Kumar, and M.S. Obaidat, *Connectivity preserving localized coverage algorithm for area monitoring using wireless sensor networks*. Computer Communications, 2011. **34**(12): p. 1484-1496.
8. Mase, K., *How to deliver your message from/to a disaster area*. IEEE Communications Magazine, 2011. **49**(1).
9. Aguirre, E., et al., *Design and Implementation of Context Aware Applications With Wireless Sensor Network Support in Urban Train Transportation Environments*. IEEE Sensors Journal, 2017. **17**(1): p. 169-178.
10. Ojuroye, O., et al., *Smart Textiles for Smart Home Control and Enriching Future Wireless Sensor Network Data*, in *Sensors for Everyday Life* 2017, Springer. p. 159-183.
11. Kurt, S., et al., *Packet size optimization in wireless sensor networks for smart grid applications*. IEEE Transactions on Industrial Electronics, 2017. **64**(3): p. 2392-2401.
12. Rothenberg, J., *United States. Defense Advanced Research Projects Agency*. The nature of modeling. Citeseer, 1989. **20**.
13. Nemeroff, J.L., et al. *Networked sensor communications for the objective force*. in *AeroSense 2002*. 2002. International Society for Optics and Photonics.
14. Biagioni, E.S. and K. Bridges, *The application of remote sensor technology to assist the recovery of rare and endangered species*. International Journal of High Performance Computing Applications, 2002. **16**(3): p. 315-324.

15. Cheng, G., *Accurate TOA-based UWB localization system in coal mine based on WSN*. Physics Procedia, 2012. **24**: p. 534-540.
16. Luoh, L., *ZigBee-based intelligent indoor positioning system soft computing*. Soft Computing, 2014. **18**(3): p. 443-456.
17. Pires, R.P., et al., *Evaluation of an rssi-based location algorithm for wireless sensor networks*. IEEE Latin America Transactions, 2011. **9**(1): p. 830-835.
18. Huang, C.-N. and C.-T. Chan, *ZigBee-based indoor location system by k-nearest neighbor algorithm with weighted RSSI*. Procedia Computer Science, 2011. **5**: p. 58-65.
19. Xiao, Q., *Range-free and range-based localization of wireless sensor networks*, 2011, The Hong Kong Polytechnic University.
20. Gharghan, S.K., et al., *Accurate Wireless Sensor Localization Technique Based on Hybrid PSO-ANN Algorithm for Indoor and Outdoor Track Cycling*. IEEE Sensors Journal, 2016. **16**(2): p. 529-541.
21. Mao, G., B. Fidan, and B.D. Anderson, *Wireless sensor network localization techniques*. Computer Networks, 2007. **51**(10): p. 2529-2553.
22. Farahani, S., *ZigBee wireless networks and transceivers* 2011: newnes.
23. Seidel, S.Y. and T.S. Rappaport, *914 MHz path loss prediction models for indoor wireless communications in multifloored buildings*. IEEE transactions on Antennas and Propagation, 1992. **40**(2): p. 207-217.
24. Seybold, J.S., *Introduction to RF propagation* 2005: John Wiley & Sons.
25. Lee, W.C., *Mobile communications engineering* 1982: McGraw-Hill Professional.
26. De Jong, Y.L. and M.H. Herben, *A tree-scattering model for improved propagation prediction in urban microcells*. IEEE Transactions on Vehicular Technology, 2004. **53**(2): p. 503-513.
27. Mazomenos, E., J. Reeve, and N. White, *An accurate range-only tracking system using wireless sensor networks*. Procedia Chemistry, 2009. **1**(1): p. 1199-1202.
28. Meng, W., L. Xie, and W. Xiao, *Decentralized TDOA sensor pairing in multihop wireless sensor networks*. Signal Processing Letters, IEEE, 2013. **20**(2): p. 181-184.
29. Dakkak, M., et al., *Indoor localization method based on RTT and AOA using coordinates clustering*. Computer networks, 2011. **55**(8): p. 1794-1803.
30. Jin, R., et al., *An RSSI-based localization algorithm for outliers suppression in wireless sensor networks*. Wireless Networks, 2015: p. 1-9.
31. Aiello, M., R. de Jong, and J. de Nes. *Bluetooth broadcasting: How far can we go? An experimental study*. in *Pervasive Computing (JCPC), 2009 Joint Conferences on*. 2009. IEEE.
32. Vivek Kaundal, P.S., Devender Saini, Manish Prateek, *Location Fingerprinting Supported Unilateral Algorithm based on Experimental*

Study of Localization in Disaster Prone Area International Journal of Computer Science and Information Security, 2016. **14**: p. 162-175.

33. Berke, P.R., J. Kartez, and D. Wenger, *Recovery after disaster: achieving sustainable development, mitigation and equity*. Disasters, 1993. **17**(2): p. 93-109.
34. O'Brien, G., et al., *Climate change and disaster management*. Disasters, 2006. **30**(1): p. 64-80.
35. Bai, Y., et al. *Emergency communication system by heterogeneous wireless networking*. in *Wireless Communications, Networking and Information Security (WCNIS), 2010 IEEE International Conference on*. 2010. IEEE.
36. Erdelj, M. and E. Natalizio. *UAV-assisted disaster management: Applications and open issues*. in *Computing, Networking and Communications (ICNC), 2016 International Conference on*. 2016. IEEE.
37. Ray, N.K. and A.K. Turuk, *A framework for post-disaster communication using wireless ad hoc networks*. Integration, the VLSI Journal, 2016.
38. Minh, Q.T., et al., *On-the-fly establishment of multihop wireless access networks for disaster recovery*. IEEE Communications Magazine, 2014. **52**(10): p. 60-66.
39. Minh, Q.T., et al., *On-site configuration of disaster recovery access networks made easy*. Ad hoc networks, 2016. **40**: p. 46-60.
40. Briante, O., et al., *Comvivor: an evolutionary communication framework based on survivors' devices reuse*. Wireless personal communications, 2015. **85**(4): p. 2021-2040.
41. Fujiwara, T. and T. Watanabe, *An ad hoc networking scheme in hybrid networks for emergency communications*. Ad hoc networks, 2005. **3**(5): p. 607-620.
42. Chipara, O., et al. *WIISARD: a measurement study of network properties and protocol reliability during an emergency response*. in *Proceedings of the 10th international conference on Mobile systems, applications, and services*. 2012. ACM.
43. Brundtland, G., et al., *Our common future* ('brundtland report\'). 1987.
44. Mukherjee, S., *Analytical Modeling of Heterogeneous Cellular Networks*2014: Cambridge University Press.
45. Sharma, R. and S. Goel, *Stand-alone hybrid energy system for sustainable development in rural India*. Environment, Development and Sustainability, 2016. **18**(6): p. 1601-1614.
46. Zheng, Z., et al., *Sustainable communication and networking in two-tier green cellular networks*. IEEE Wireless Communications, 2014. **21**(4): p. 47-53.
47. Huang, R., et al., *Design and implementation of communication architecture in a distributed energy resource system using IEC 61850*

- standard*. International Journal of Energy Research, 2016. **40**(5): p. 692-701.
48. Alanne, K. and A. Saari, *Distributed energy generation and sustainable development*. Renewable and sustainable energy reviews, 2006. **10**(6): p. 539-558.
 49. Makhija, S.P. and S. Dubey, *Feasibility of PV–biodiesel hybrid energy system for a cement technology institute in India*. Environment, Development and Sustainability: p. 1-11.
 50. Darwish, Z.A., et al., *Experimental investigation of dust pollutants and the impact of environmental parameters on PV performance: an experimental study*. Environment, Development and Sustainability, 2016: p. 1-20.
 51. Valkering, P., et al., *An analysis of learning interactions in a cross-border network for sustainable urban neighbourhood development*. Journal of Cleaner Production, 2013. **49**: p. 85-94.
 52. Bakıcı, T., E. Almirall, and J. Wareham, *A smart city initiative: the case of Barcelona*. Journal of the Knowledge Economy, 2013. **4**(2): p. 135-148.
 53. Usman, A. and S.H. Shami, *Evolution of communication technologies for smart grid applications*. Renewable and sustainable energy reviews, 2013. **19**: p. 191-199.
 54. Wang, A. and X.Q. Zhang. *Application of the Internet of Things Technology in Food Safety Monitoring and Controlling System*. in *Advanced Materials Research*. 2014. Trans Tech Publ.
 55. Pearce, L., *Disaster management and community planning, and public participation: how to achieve sustainable hazard mitigation*. Natural Hazards, 2003. **28**(2): p. 211-228.
 56. Bello, O.M. and Y.A. Aina, *Satellite remote sensing as a tool in disaster management and sustainable development: towards a synergistic approach*. Procedia-Social and Behavioral Sciences, 2014. **120**: p. 365-373.
 57. Shaw, R., F. Mallick, and A. Islam, *Disaster risk reduction approaches in Bangladesh* 2013: Springer.
 58. Sahay, B., N.V.C. Menon, and S. Gupta, *Humanitarian logistics and disaster management: the role of different stakeholders*, in *Managing Humanitarian Logistics* 2016, Springer. p. 3-21.
 59. Ooi, G.L., et al., *Near real-time landslide monitoring with the smart soil particles*. Japanese Geotechnical Society Special Publication, 2016. **2**(28): p. 1031-1034.
 60. Gioia, E., et al., *Application of a process-based shallow landslide hazard model over a broad area in Central Italy*. Landslides, 2016. **13**(5): p. 1197-1214.
 61. Wu, C.-I., et al., *An intelligent slope disaster prediction and monitoring system based on WSN and ANP*. Expert Systems with Applications, 2014. **41**(10): p. 4554-4562.

62. Kohvakka, M., et al. *Performance analysis of IEEE 802.15. 4 and ZigBee for large-scale wireless sensor network applications*. in *Proceedings of the 3rd ACM international workshop on Performance evaluation of wireless ad hoc, sensor and ubiquitous networks*. 2006. ACM.
63. Ruiz-Garcia, L., P. Barreiro, and J. Robla, *Performance of ZigBee-based wireless sensor nodes for real-time monitoring of fruit logistics*. *Journal of Food Engineering*, 2008. **87**(3): p. 405-415.
64. Erd, M., et al., *Event monitoring in emergency scenarios using energy efficient wireless sensor nodes for the disaster information management*. *International Journal of Disaster Risk Reduction*, 2016. **16**: p. 33-42.
65. Ali, A., et al., *Efficient predictive monitoring of wireless sensor networks*. *International Journal of Autonomous and Adaptive Communications Systems*, 2012. **5**(3): p. 233-254.
66. Hartenstein, H. and L. Laberteaux, *A tutorial survey on vehicular ad hoc networks*. *IEEE Communications Magazine*, 2008. **46**(6).
67. Ullah, S., et al., *A comprehensive survey of wireless body area networks*. *Journal of medical systems*, 2012. **36**(3): p. 1065-1094.
68. Savarese, C., J.M. Rabaey, and J. Beutel. *Location in distributed ad-hoc wireless sensor networks*. in *Acoustics, Speech, and Signal Processing, 2001. Proceedings.(ICASSP'01). 2001 IEEE International Conference on*. 2001. IEEE.
69. Mesmoudi, A., M. Feham, and N. Labraoui, *Wireless sensor networks localization algorithms: a comprehensive survey*. arXiv preprint arXiv:1312.4082, 2013.
70. Gezici, S., *A survey on wireless position estimation*. *Wireless personal communications*, 2008. **44**(3): p. 263-282.
71. Gracioli, G., et al., *Evaluation of an RSSI-based location algorithm for wireless sensor networks*. *Latin America Transactions, IEEE (Revista IEEE America Latina)*, 2011. **9**(1): p. 830-835.
72. Halder, S. and A. Ghosal, *A survey on mobility-assisted localization techniques in wireless sensor networks*. *Journal of Network and Computer Applications*, 2016. **60**: p. 82-94.
73. Nedjati, A., B. Vizvari, and G. Izbirak, *Post-earthquake response by small UAV helicopters*. *Natural Hazards*, 2016. **80**(3): p. 1669-1688.
74. Pantazis, N.A. and D.D. Vergados, *A survey on power control issues in wireless sensor networks*. *IEEE Communications Surveys and Tutorials*, 2007. **9**(1-4): p. 86-107.
75. Akyildiz, I.F., et al., *Wireless sensor networks: a survey*. *Computer networks*, 2002. **38**(4): p. 393-422.
76. Shaikh, F.K., S. Zeadally, and F. Siddiqui, *Energy efficient routing in wireless sensor networks*, in *Next-Generation Wireless Technologies 2013*, Springer. p. 131-157.

77. Levis, P., et al., *TinyOS: An operating system for sensor networks*, in *Ambient intelligence 2005*, Springer. p. 115-148.
78. Dunkels, A., B. Grönvall, and T. Voigt. *Contiki-a lightweight and flexible operating system for tiny networked sensors*. in *Local Computer Networks, 2004. 29th Annual IEEE International Conference on*. 2004. IEEE.
79. Anastasi, G., et al., *Energy conservation in wireless sensor networks: A survey*. *Ad hoc networks*, 2009. **7**(3): p. 537-568.
80. *IRIS, Memsic, Inc.* <http://www.memsic.com/wireless-sensor-networks/XM2110CA>, 2016.
81. *MicaZ, Memsic, Inc.* <http://www.memsic.com/wireless-sensor-networks/MPR2400CB>, 2016.
82. *iMote2, Intel Research.* <http://tinyos.stanford.edu/tinyos-wiki/index.php/Imote2>, 2016.
83. *SunSpot, Sun systems.* <http://www.sunspotworld.com/>, 2016.
84. *Waspote, Libelium Inc.* <http://www.libelium.com/products/waspote/>, 2016.
85. *WiSMote, Arago systems.* <http://www.aragosystems.com/en/wisnet-item/wisnet-wismote-item.html>, 2016.
86. He, T., et al., *Range-free localization and its impact on large scale sensor networks*. *ACM Transactions on Embedded Computing Systems (TECS)*, 2005. **4**(4): p. 877-906.
87. Anzai, D. and S. Hara. *An RSSI-based MAP localization method with channel parameters estimation in wireless sensor networks*. in *Vehicular Technology Conference, 2009. VTC Spring 2009. IEEE 69th*. 2009. IEEE.
88. Blywis, B., et al. *A localization framework for wireless mesh networks-anchor-free distributed localization in the des-testbed*. in *Indoor Positioning and Indoor Navigation (IPIN), 2010 International Conference on*. 2010. IEEE.
89. Liu, W., et al. *Radio map position inference algorithm for indoor positioning systems*. in *2012 18th IEEE International Conference on Networks (ICON)*. 2012. IEEE.
90. Luo, X., W.J. O'Brien, and C.L. Julien, *Comparative evaluation of Received Signal-Strength Index (RSSI) based indoor localization techniques for construction jobsites*. *Advanced Engineering Informatics*, 2011. **25**(2): p. 355-363.
91. Meng, W., L. Xie, and W. Xiao, *Decentralized TDOA sensor pairing in multihop wireless sensor networks*. *IEEE Signal Processing Letters*, 2013. **20**(2): p. 181-184.
92. Nasipuri, A. and K. Li. *A directionality based location discovery scheme for wireless sensor networks*. in *Proceedings of the 1st ACM international workshop on Wireless sensor networks and applications*. 2002. ACM.
93. Savvides, A., C.-C. Han, and M.B. Strivastava. *Dynamic fine-grained localization in ad-hoc networks of sensors*. in *Proceedings of the 7th*

- annual international conference on Mobile computing and networking*. 2001. ACM.
94. Othman, S.N., *Node positioning in zigbee network using trilateration method based on the received signal strength indicator (RSSI)*. European Journal of Scientific Research, 2010. **46**(1): p. 048-061.
 95. Shang, F., et al., *A location estimation algorithm based on RSSI vector similarity degree*. International Journal of Distributed Sensor Networks, 2014. **10**(8): p. 371350.
 96. Sahoo, P.K. and I. Hwang, *Collaborative localization algorithms for wireless sensor networks with reduced localization error*. Sensors, 2011. **11**(10): p. 9989-10009.
 97. Subhan, F., H. Hasbullah, and K. Ashraf, *Kalman filter-based hybrid indoor position estimation technique in bluetooth networks*. International Journal of Navigation and Observation, 2013. **2013**.
 98. Rusu, C.V. and H.-S. Ahn. *Optimal network localization by particle swarm optimization*. in *Intelligent Control (ISIC), 2011 IEEE International Symposium on*. 2011. IEEE.
 99. Payal, A., C.S. Rai, and B.R. Reddy, *Analysis of some feedforward artificial neural network training algorithms for developing localization framework in wireless sensor networks*. Wireless personal communications, 2015. **82**(4): p. 2519-2536.
 100. Thongpul, K., N. Jindapetch, and W. Teerapakajorndet. *A neural network based optimization for wireless sensor node position estimation in industrial environments*. in *Electrical Engineering/Electronics Computer Telecommunications and Information Technology (ECTI-CON), 2010 International Conference on*. 2010. IEEE.
 101. Chuang, P.-J. and Y.-J. Jiang, *Effective neural network-based node localisation scheme for wireless sensor networks*. IET Wireless Sensor Systems, 2014. **4**(2): p. 97-103.
 102. Nerguizian, C. and V. Nerguizian. *Indoor fingerprinting geolocation using wavelet-based features extracted from the channel impulse response in conjunction with an artificial neural network*. in *Industrial Electronics, 2007. ISIE 2007. IEEE International Symposium on*. 2007. IEEE.
 103. Rahman, M., Y. Park, and K.-D. Kim, *RSS-Based Indoor Localization Algorithm for Wireless Sensor Network Using Generalized Regression Neural Network*. Arabian Journal for Science & Engineering (Springer Science & Business Media BV), 2012. **37**(4).
 104. Di, M., et al. *Range-free localization based on hop-count quantization in wireless sensor networks*. in *TENCON 2009-2009 IEEE Region 10 Conference*. 2009. IEEE.
 105. Oguejiofor, O., et al., *Trilateration based localization algorithm for wireless sensor network*. International Journal of Science and Modern Engineering (IJISME), 2013. **1**(10): p. 2319-6386.

106. Rao, R.V., *Teaching-Learning-Based Optimization Algorithm*, in *Teaching Learning Based Optimization Algorithm* 2016, Springer. p. 9-39.
107. Chruszczyk, Ł. and A. Zając, *Comparison of indoor/outdoor, RSSI-based positioning using 433, 868 or 2400 MHz ISM bands*. International Journal of Electronics and Telecommunications, 2016. **62**(4): p. 395-399.
108. Specification, Z., *ZigBee Alliance*. ZigBee Document 053474r06, Version, 2006. **1**.
109. Elsayed, S.M., R.A. Sarker, and D.L. Essam, *A new genetic algorithm for solving optimization problems*. Engineering Applications of Artificial Intelligence, 2014. **27**: p. 57-69.
110. Karaboga, D., et al., *A comprehensive survey: artificial bee colony (ABC) algorithm and applications*. Artificial Intelligence Review, 2014. **42**(1): p. 21-57.
111. Cao, C., Q. Ni, and X. Yin. *Comparison of particle swarm optimization algorithms in wireless sensor network node localization*. in *Systems, Man and Cybernetics (SMC), 2014 IEEE International Conference on*. 2014. IEEE.
112. Alliance, Z., *Zigbee specification*, 2006.
113. Thadewald, T. and H. Büning, *Jarque–Bera test and its competitors for testing normality—a power comparison*. Journal of Applied Statistics, 2007. **34**(1): p. 87-105.
114. Hanusz, Z., J. Tarasinska, and W. Zielinski, *SHAPIRO–WILK TEST WITH KNOWN MEAN*. REVSTAT–Statistical Journal, 2016. **14**(1): p. 89-100.
115. Hanusz, Z., J. Tarasinska, and W. Zielinski, *Shapiro-Wilk test with known mean*. REVSTAT-Statistical Journal, 2016. **14**(1): p. 89-100.