List of Publications

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I. Book

1. K. Sinha, S. C. Ghosh and B. P. Sinha, ''Wireless Networks and Mobile Computing,'' *CRC Press*, *Taylor and Francis Group*, USA, October 2015.

II. Journal Publications

1. S. S. Sarma, K. Sinha, C. Sub-r-Pa, G. Chakraborty and B. P. Sinha, "Optimal Distribution of Traffic in Manhattan Road Networks for Minimizing Routing-Time," *IEEE Transactions on Intelligent Transportation Systems*, doi: 10.1109/TITS.2020.2994836, May 2020.

2. A. Celik, J. Tetzner, K. Sinha and J. Matta, "5G device-to-device communication security and multipath routing solutions," Applied Network Science, Springer, vol. 4(1), pp. 1-24, Nov. 2019.

3. D. Saha and K. Sinha, "Optimal Schedule for All-to-All Personalized Communication in Multiprocessor Systems," *ACM Transactions on Parallel Computing*, vol. 6(1), Article 5, June 2019.

4. J. Matta, G. Ercal and K. Sinha, "Comparing the speed and accuracy of approaches to betweenness centrality approximation," *Computational Social Networks*, Springer, vol. 6(1), Feb. 2019.

5. J. Matta, T. Obafemi-Ajayi, J. Borwey, K. Sinha, D. Wunsch and G. Ercal, "Node-based resilience measure clustering with applications to noisy and overlapping communities in complex networks," *Applied Sciences*, vol. 8(8):1307, 2018, pp. 1-28.

6. A. Bhattacharya, S. C. Ghosh, K. Sinha and B. P. Sinha, "Secure Multipath Routing for Multimedia Communication in Cognitive Radio Networks," *Intl. Journal of Communication Networks and Distributed Systems* (IJCNDS), Inderscience, vol. 21(1), June 2018.

7. B. Gupta, A. Alyanbaawi, N. Rahimi, K. Sinha, and Z. Liu, "Novel Low Latency Load Shared Multicore Multicasting Schemes – An Extension to Core Migration," *International Journal of Computers and Their Applications*, vol. 25(3), 2018.

8. M. V. Praveen, P. Majumder, K. Sinha, N. Rahimi and B. Gupta, "A Highly Secured Three-Phase Symmetric Cipher Technique," *International Journal of Computers and Their Applications*, vol. 25(4), Dec. 2018, pp. 1-10.

9. A. Bhattacharya and K. Sinha, "An efficient protocol for load-balanced multipath routing in mobile ad hoc networks," *Ad Hoc Networks*, Elsevier, vol. 63, Aug. 2017, pp. 104-114.

10. A. Bhattacharya, K. Sinha, D. Datta and B. P. Sinha, "MRBNS: a new energy-efficient communication scheme in low power wireless networks," *Intl. Journal of Sensor Networks* (IJSNET), Inderscience, vol. 23(3), 2017, pp. 155-169.

11. P. Majumder, A. Bhattacharya, K. Sinha, B. P. Sinha and K. V. N. Kavitha, "An energy-efficient wireless communication scheme using Quint Fibonacci number system," *Intl. Journal of Communication Networks and Distributed Systems* (IJCNDS), vol 16(2), Feb. 2016, pp. 140-161.

12. A. Bhattacharya, R. N. Ghosh, K. Sinha, D. Datta and B. P. Sinha, "Non-contiguous channel allocation for multimedia communication in cognitive radio networks," *IEEE Transactions on Cognitive Communications and Networking*, vol. 1(4), Dec. 2015, pp. 420-434.

13. G. K. Audhya, K. Sinha, K. Mandal, R. Dattagupta, S. C. Ghosh and B. P. Sinha, ''A new approach to fast near-optimal channel assignment in cellular mobile networks,'' *IEEE Transactions on Mobile Computing*, vol. 12(9), Sept. 2013, pp. 1814–1827.

14. S. Sen Gupta, A. Chattopadhyay, K. Sinha, S. Maitra and B. P. Sinha, "High performance hardware implementation for RC4 stream cipher," *IEEE Transactions on Computers*, vol. 62(4), April 2013, pp. 730-743.

15. R. N. Ghosh, K. Sinha, D. Datta and B. P. Sinha, ''Energy-efficient communication in multihop wireless sensor networks using ternary encoding and silent symbols,'' *Intl. Journal of Communication Networks and Distributed Systems* (IJCNDS), vol. 11(4), 2013, pp. 376-389.

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19. K. Sinha, B. P. Sinha and D. Datta, ''CNS: a new energy efficient transmission scheme for wireless sensor networks,'' *Wireless Networks (WINET) Journal*, ACM/Springer, vol. 16(8), Nov. 2010, pp. 2087-2104.

20. K. Sinha and B. P. Sinha, ''On the distribution of runs of ones in binary strings,'' *Computers and Mathematics with Applications*, Elsevier, vol. 58(9), Nov. 2009, pp. 1816-1829.

21. K. Sinha, S. Ghose and P. K. Srimani, ''Fast deterministic broadcast and gossiping algorithms for mobile ad hoc networks,'' *Journal of Parallel and Distributed Computing* (JPDC), vol. 68(7), July 2008, pp. 922-938.

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III. Refereed Conference Publications

1. K. Sinha, P. Majumder and S. K. Ghosh, "Fully Homomorphic Encryption based Privacy-Preserving Data Acquisition and Computation for Contact Tracing," *Proc. 2020 IEEE International Conference on Advanced Networks and Telecommunications Systems* (ANTS), New Delhi, India, 2020, pp. 1-6, doi: 10.1109/ANTS50601.2020.9342834.

2. S. R. Das, K. Sinha, N. Mukherjee and B.P. Sinha, "Delay and Disruption Tolerant Networks: A Brief Survey," *Proc. 2020 Intelligent and Cloud Computing, Smart Innovation, Systems and Technologies*, Springer, vol 194, pp. 297-305, https://doi.org/10.1007/978-981-15-5971-6_32, 2021.

3. P. Majumder, P. Chatterjee and K. Sinha, "Run Length Distribution based Block Coding Scheme for Sustainable IoT Applications," *Proc. 2020 2nd IEEE PhD Colloquium on Ethically Driven Innovation and Technology for Society* (PhD EDITS), IEEE, Bangalore, India, 2020, pp. 1-2, doi: 10.1109/PhDEDITS51180.2020.9315302.

4. S. R. Das, G. K. Audhya and K. Sinha, "Channel Assignment in Hexagonal Cellular Networks in Presence of Device-to-Device Communication," *Proc. 15th Intl. Conf. on Wireless and Mobile Computing, Networking and Communications* (WiMob), Oct. 21-23, Barcelona, Spain, 2019.

5. S. S. Sarma, K. Sinha, S. R. Das and B. P. Sinha, "Fast Transportation in a Disaster Situation along Real-life Grid-structured Road Networks," *Proc. IEEE 90th Vehicular Technology Conference* (VTC2019-Fall), Hawaii, USA, Sept. 22-25, 2019.

6. S. R. Das, K. Sinha, N. Mukherjee and B. P. Sinha, "Delay and Disruption Tolerant Networks: A Brief Survey," Proc*. Intl. Conf. on Intelligent and Cloud Computing*, Springer, 2019.

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8. P. Majumder, K. Sinha, L. Dash and B. P. Sinha, "CMNS: An Energy-Efficient Communication Scheme for Wireless Sensor Networks," *Proc. IEEE Intl. Conf. on Advanced Networks and Telecommunications Systems* (ANTS), Indore, India, Dec. 16-19, 2018.

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11. G. K. Audhya, K. Sinha, P. Majumder, S. Das and B. P. Sinha, "Placement of Access Points in an Ultra-Dense 5G Network with Optimum Power and Bandwidth," *Proc. IEEE Wireless Communications and Networking Conference* (WCNC), Barcelona, April 2018.

12. S. S. Sarma, K. Sinha, G. Chakraborty and B. P. Sinha, "Reduction of Congestion in a Manhattan Grid Road Network by Detouring of Vehicles," *Proc. IEEE Intl. Conf. on Advanced Networks and Telecommunications Systems* (ANTS), Bhubaneswar, India, Dec. 17-20, 2017.

13. S. Maity, K. Sinha and B. P. Sinha, "An Efficient Lightweight Stream Cipher Algorithm for Wireless Networks," *Proc. IEEE Wireless Communications and Networking Conference* (WCNC), San Francisco, USA, March 19-22, 2017.

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15. S. Sen Sarma, K. Sinha, G. Chakraborty and B. P. Sinha, "Distributed Algorithm for Traffic Dissemination in Manhattan Networks with Optimal Routing-Time," *Proc. 32nd ACM SIGAPP Symposium on Applied Computing* (ACM SAC), Morocco, April 4-6, 2017.

16. P. Majumder and K. Sinha, "A Novel Key Generation Algorithm from Twitter Data Stream for Secure Communication in IoT," *Proc. IEEE Intl. Conf. on Pervasive Computing and Communications* (IEEE PeRCom), *2nd Workshop on Security, Privacy and Trust for the Internet of Things*, Hawaii, USA, March 13-17, 2017.

17. A. Alyanbaawi, B. Gupta, S. Rahimi, N. Rahimi and K. Sinha, "An efficient approach for load-shared and fault-tolerant multicore shared tree multicasting," *Proc. IEEE 15th Intl. Conf. on Industrial Informatics* (IEEE INDIN), Emden, pp. 937-943, 2017.

18. K. Sinha, B. Gupta and A. Bhattacharya, "An Efficient Algorithm for Load Partitioning in Multicore Shared-tree Multicast," *Proc. 32nd Intl. Conf. on Computers and Their Applications* (CATA), Hawaii, USA, March 20-22, 2017.

19. M. V. Praveen, B. Gupta and K. Sinha, "A Novel Three Phase Symmetric Cipher Technique," *Proc. 32nd Intl. Conf. on Computers and Their Applications* (CATA), Hawaii, USA, March 20-22, 2017.

20. K. Sinha, P. Majumder and G. Manjunath, "A dynamic microtask scheduling approach for SLO based human-augmented computing," *Proc. 3rd IEEE Intl. Conf. on Recent Advances in Information Technology* (IEEE RAIT), March 3-5, 2016.

21. K. Sinha, G. Manjunath, B. Gupta and S. Rahimi, "Designing a human-machine hybrid computing system for unstructured data analytics," *Proc. 31st Intl. Conf. on Computers and Their Applications* (CATA), April 4-6, 2016.

22. K. Sinha, B. Gupta, S. Rahimi and A. Alyanbaawi, "Locality based core selection for multicore shared tree multicasting," *Proc. 31st Intl. Conf. on Computers and Their Applications* (CATA), April 4-6, 2016.

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26. H. Memari, S. Rahimi, B. Gupta and K. Sinha, "Towards patient flow optimization in emergency departments using genetic algorithms," *Proc. 14th IEEE International Conference on Industrial Informatics* (IEEE INDIN), July 2016.

27. A. Bhattacharya, K. Sinha and B. P. Sinha, "Energy-efficient multimedia communication for cognitive radio networks," *Proc. 10th Intl. Conf. on Distributed Computing and Networking* (ICDCN), 2014, pp. 525-531.

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29. K. Sinha, G. Manjunath and A. Ranjan, "SLO Driven Task Scheduling for Human Augmented Analytics," *Proc. Hewlett-Packard Techcon Conf.*, 2013.

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34. S. Banerjee, A. Datta Chowdhury, K. Sinha and S. K. Ghosh, ''Contention free many-to-many communication scheduling for high performance clusters,'' *Proc. Intl. Conf. on Distributed Computing and Internet Technologies* (ICDCIT), Bhubaneswar, India, LNCS 6536, Feb. 9-12, 2011, pp. 150-161.

35. A. Bhattacharya, R. N. Ghosh, K. Sinha and B. P. Sinha, ''Multimedia communication in cognitive radio networks based on sample division multiplexing,'' Proc. 3rd IEEE Intl. Conf. on Communication Systems and Networks (IEEE COMSNETS), Bangalore, India, Jan. 4-8, 2011.

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37. G. K. Audhya, K. Sinha, K. Mandal, R. Dattagupta, S. C. Ghosh and B. P. Sinha, ''An efficient algorithm for channel assignment in cellular mobile networks,'' *Proc. National Workshop on Design & Analysis of Algorithms*, Tezpur, India, Jan. 2010, pp. 1-12.

38. S. K. Ghosh and K. Sinha, ''On convex greedy embedding conjecture for 3-connected planar graphs,'' *Proc. 17th Intl. Symp. on Fundamentals of Computation Theory* (FCT), Poland, Sept. 2-4, 2009, pp. 145-156.

39. K. Sinha, ''An energy efficient communication scheme for applications based on low power wireless networks,'' *Proc. 6th IEEE Consumer Communications and Networking Conference* (IEEE CCNC), Las Vegas, USA, Jan. 2009, pp. 1-5.

40. K. Sinha, A. Datta Chowdhury, S. Banerjee and S. K. Ghosh, ''Efficient load balancing on a cluster for large scale online video surveillance,'' *Proc. 10th Intl. Conf. on Distributed Computing and Networking* (ICDCN), LNCS 5408, Hyderabad, India, Jan. 2009, pp. 450-455.

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43. G. K. Audhya, K. Sinha and B. P. Sinha, ''Lower bound on bandwidth for feasible channel assignment in multimedia cellular networks,'' *Proc. 2nd Intl. Conf. on Internet Multimedia Services Arch. and Applications* (IMSAA), IEEE Communications Society Press, Bangalore, India, Dec. 2008, pp. 1-6.

44. K. Sinha, A. Datta Chowdhury, S. K. Ghosh and S. Banerjee, ''On the timeliness of a cluster based large scale online video surveillance,'' *Proc. 20th Parallel and Distributed Computing and Systems Conf.* (PDCS), Orlando, USA, Nov. 2008, pp. 47-52.

45. K. Sinha, ''A new energy efficient MAC protocol based on redundant radix for wireless networks,'' *Proc. Recent Trends in Information Systems* (RETIS), Calcutta, India, Feb. 8-10, 2008, pp. 167-172.

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49. K. Sinha, ''Optimal time slot assignment for mobile ad hoc networks,'' *Proc. 7th Intl. Workshop on Distributed Computing* (IWDC), LNCS 3741, Calcutta, India, Dec. 27-30, 2005, pp. 250-261.

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51. K. Sinha and P. K. Srimani, ''Broadcast and gossiping algorithms for mobile ad hoc networks based on breadth-first traversal,'' *Proc. 6th Intl. Workshop on Distributed Computing* (IWDC), LNCS 3326, Calcutta, India, 2004, pp. 459-470.

52. P. K. Jana and K. Sinha, ''Bit reversal permutation on optical multi-trees (OMULT),'' *Proc. 12th Intl. Conf. on Advanced Computing and Communication* (ADCOM), Ahmedabad, India, Dec. 15-18, 2004, pp. 476-480.

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54. K. Sinha, S. Sur-Kolay, P. S. Dasgupta and B. B. Bhattacharya, ''Partitioning routing area into zones with distinct pins,'' *Proc. 14th Intl. Conf. on VLSI Design*, IEEE Computer Society Press, Bangalore, India, Jan. 3-7, 2001, pp. 345-350.

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IV. Patents

1. K. Sinha and A. Datta Chowdhury, "Identification of the location of nodes distributed in ad hoc networks," United States Patent US8671168, Issue Date: Mar. 11, 2014.

2. K. Sinha, A. V. Mahasenan and P. Gonia, "System and method for determining network element criticality," United States Patent US20130163407, Issue Date: June 27, 2013.

3. L. Boregowda, J. P. Meruva and K. Sinha, "Aircraft speech recognition and voice training data storage and retrieval methods and apparatus," United States Patent US8370157, Issue Date: Feb. 5, 2013.

4. K. Sinha, L. Boregowda and J. P. Meruva, "Speech recognition and voice training data storage and access methods and apparatus", United States Patent US20120010887, Issue Date: Jan. 12, 2012.

5. K. Sinha, L. Boregowda and J. P. Meruva, "Speech recognition and voice training data storage and access methods and apparatus", European Patent EP2405422, Issue Date: Jan. 11, 2012.

6. K. Sinha, "Optimal time slot assignment for networks," United States Patent US8072928, Issue Date: Dec. 6, 2011.

7. K. Sinha and A. Datta Chowdhury, "Identification of the location of nodes distributed in ad hoc networks," United States Patent US8040859, Issue Date: Oct. 18, 2011.