

Publications

Book Chapters & Articles

1. Dragos Calitoiu, John B. Oommen, and Doron Nussbaum. *Pattern Recognition Theory and Application*, chapter 1. Introduction to Chaotic Pattern Recognition: Periodicity and Stability Issues of a Chaotic Neural Network, pages 239–257. Nova Science Publishers Inc., New York, September 2007.

Papers in Refereed Journals

2. D. Nussbaum, S. Pu, J.-R. Sack, T. Uno, and H. Zarrabi-Zadeh. Finding maximum edge bicliques in convex bipartite graphs. *Algorithmica*, 64(2):311–325, 2012.
3. Dragos Calitoiu, John Oommen, , and Doron Nussbaum. Large scale neuro-modeling for understanding and controlling brain-related chaotic behavior. *Simulation*, 88(11):1316–1337, 2012.
4. Matt Duckham, Doron Nussbaum, Jörg-Rüdiger Sack, and Nicola Santoro. Efficient, decentralized computation of the topology of spatial regions. *IEEE Trans. Computers* 60(8): 1100–1113, 2011.
5. Lyudmil Aleksandrov, Hristo Djidjev, Hua Guo, Anil Maheshwari, Doron Nussbaum, and Jörg-Rüdiger Sack. Algorithms for approximate shortest path queries on weighted polyhedral surfaces. *Discrete & Computational Geometry*, 44(4):762–801, 2010.
6. Florian Berger, Rolf Klein, Doron Nussbaum, Jörg-Rüdiger Sack, and Jiehua Yi. A meeting scheduling problem respecting time and space. *GeoInformatica*, 13(4):453–481, 2009.
7. D. Calitoiu, B. J. Oommen, and D. Nussbaum. Spikes annihilation in the hodgkins - huxley neuron. *Biological Cybernetics*, 98(3):239–257, 2008.
8. Mark A. Lanthier, Doron Nussbaum, and Tsuo-Jung Wang. Computing an approximation of the 1-center problem on weighted terrain surfaces. *ACM Journal of Experimental Algorithmics*, 13:1.3–1.29, 2009.
9. Eric Gervais, Hongchen Liu, You-Sou Roh, Doron Nussbaum, Jörg-Rüdiger Sack, and Jiehua Yi. Intelligent map agents - a ubiquitous personalized gis. *ISPRS Journal of Photogrammetry and Remote Sensing*, 62(5):347–365, October 2007. Special issue on Distributed Geoinformatics.
10. M. H. Albert, M. D. Atkinson, Doron Nussbaum, Jörg-Rüdiger Sack, and Nicola Santoro. On the longest increasing subsequence of a circular list. *Information Processing Letters*, 101(2):55–59, 2007.
11. Dragos Calitoiu, B. John Oommen, and Doron Nussbaum. Desynchronizing a chaotic pattern recognition neural network to model inaccurate perception. *IEEE Transactions on Systems, Man, and Cybernetics, Part B*, 37(3):692–704, 2007.
12. Dragos Calitoiu, B. John Oommen, and Doron Nussbaum. Periodicity and stability issues of a chaotic pattern recognition neural network. *Pattern Analysis and Applications*, 10(3):175–188, August 2007.
13. Mark Lanthier, Doron Nussbaum, and Jörg-Rüdiger Sack. Parallel implementation of geometric shortest path algorithms. *Parallel Computing*, 29(10):1445–1479, 2003.
14. D. Nussbaum and J.-R. Sack. Disassembling two-dimensional composite parts via translations. *International Journal of Computational Geometry & Applications*, 3(1):71–84, 1993.

Papers in Refereed Conference Proceedings:

15. Shaath Q, Chan ADC, Nussbaum D, Greenwood K, MacNeil M, Ma C and Vaillancourt R, A case study: Gentamicin hard limit events and follow-up actions in smart infusion pump, accepted to 36th Conference of the Canadian Medical & Biological Engineering Society, Ottawa, Canada, 2013.
16. Doron Nussbaum, Masoud T. Omran, and Jörg-Rüdiger Sack. Techniques to protect privacy against inference attacks in location based services. In *Proceedings of the Third ACM SIGSPATIAL International Workshop on GeoStreaming, IWGS '12*, pages 58–67, New York, NY, USA, 2012. ACM.

17. Doron Nussbaum and Nicola Santoro. On the Message Complexity of Global Computations. In *OPODIS 2010: Proceedings of the 14th International Conference on Principles of Distributed Systems*, volume 6490 of *Lecture Notes in Computer Science*, pages 427 – 442, Tozeur, Tunisia, December 14-17, 2010.
18. S. Asaduzzaman, B. Franks, K. Lu, D. Nussbaum, and J.-R. Sack,. The GlobeCon Context Processing Middleware in an Opportunistic Environment accepted for presentation at the Opportunity 2010 Workshop , to be held in conjunction with the UbiComp2010, 2010.
19. Peyman Rahmati, Ghassan Hamarneh, Doron Nussbaum, and Andy Adler. A new preprocessing filter for digital mammograms. In Abderrahim Elmoataz, Olivier Lezoray, Fathallah Nouboud, Driss Mammas, and Jean Meunier, editors, *ICISP*, volume 6134 of *Lecture Notes in Computer Science*, pages 585–592. Springer, 2010.
20. Doron Nussbaum, Shuye Pu, Jörg-Rüdiger Sack, Takeaki Uno, and Hamid Zarrabi-Zadeh. Finding maximum edge bicliques in convex bipartite graphs. In My T. Thai and Sartaj Sahni, editors, *COCOON*, volume 6196 of *Lecture Notes in Computer Science*, pages 140–149. Springer, 2010.
21. Florian Berger, Rolf Klein, Doron Nussbaum, Jörg-Rüdiger Sack, and Jiehua Yi. A meeting scheduling problem respecting time and space. In *AAIM '08: Proceedings of the 4th international conference on Algorithmic Aspects in Information and Management*, pages 50–59, Shanghai, China, 2008.
22. Dragos Calitoiu, Doron Nussbaum, and B. John Oommen. Large scale modeling of the piriform cortex for analyzing antiepileptic effects. In *SpringSim '08: Proceedings of the 2008 Spring simulation multiconference*, pages 599–608, Ottawa, Canada, 2008. Society for Computer Simulation International.
23. Dragos Calitoiu, John B. Oommen, and Doron Nussbaum. Analytic results on the hodgkin-huxley neural network: Spikes annihilation. In *CAI '07: Proceedings of the 20th conference of the Canadian Society for Computational Studies of Intelligence on Advances in Artificial Intelligence*, pages 320–331, Montreal, Quebec, Canada, 2007. Springer-Verlag.
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25. Kaiyuan Lu, Doron Nussbaum, and Jörg-Rüdiger Sack. Globecon - a scalable framework for context aware computing. In *EuroSSC 2007: Proceedings of the 2nd European Conference on Smart Sensing and Context*, pages 190–206, October 23-25, 2007.
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27. Anil Maheshwari, Doron Nussbaum, Jörg-Rüdiger Sack, and Jiehua Yi. An $o(n^2 \log n)$ time algorithm for computing shortest paths amidst growing discs in the plane. In *ISAAC 2007: Proceedings of the 18th International Symposium on Algorithms and Computation*, pages 668–680, Sendai, Japan, December 17-19, 2007.
28. Dragos Calitoiu, B. John Oommen, and Doron Nussbaum. Numerical results on the hodgkin-huxley neural network: Spikes annihilation. In *The 2nd International Symposium on Brain, Vision, and Artificial Intelligence, BVAI 2007* Naples Italy, pages 378–387, October 10-12, 2007.
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31. Doron Nussbaum, Jörg-Rüdiger Sack, and Hua Ye. Concurrent parallel shortest path computation. In *ParCo 2005: Proceedings of the International Conference Parallel Computing: Current & Future Issues of High-End Computing*, pages 277–284, Malaga, Spain, September 13-16 2005.
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33. Dragos Calitoiu, B. John Oommen, and Doron Nussbaum. Neural network-based chaotic pattern recognition - part 2: Stability and algorithmic issues. In *CORES '05: Proceedings of the 4th International Conference on Computer Recognition Systems*, volume 30 of *Advances in Soft Computing*, pages 3–16, Rydzyna Castle, Poland, May 22-25, 2005.
34. Jilan Chen, Mark Lanthier, Miller Macpherson, and Doron Nussbaum. Computing tumour coverage as a result of respiratory motion during radiotherapy treatment. In *ICITA 2005: Proceedings of the 3rd International Conference on Information Technology and Applications*, pages 107–112, Sydney, Australia, July 4-7, 2005.
35. Mark A. Lanthier, Doron Nussbaum, and Tsuo-Jung Wang. Calculating the meeting point of scattered robots on weighted terrain surfaces. In *CATS '05: Proceedings of the 2005 Australasian symposium on Theory of computing*, pages 107–118, Newcastle, Australia, 2005.
36. Mark Lanthier, Doron Nussbaum, and An Sheng. Improving vision-based maps by using sonar and infrared data. In *Proceedings of the IASTED International Conference on Robotics and Applications*, pages 118–123, Honolulu, Hawaii, USA, August 2004.
37. Abdul-Rahman Mawlood-Yunis, Amiya Nayak, Doron Nussbaum, and Nicola Santoro. Comparing performance of two mobile agent platforms in distributed search. In *IAT '04: Proceedings of the Intelligent Agent Technology, IEEE/WIC/ACM International Conference*, pages 425–428, Washington, DC, USA, 2004. IEEE Computer Society.
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41. John Oommen, Jack Zgierski, and Doron Nussbaum. Stochastic sorting using deterministic consecutive and leader filters. In *MSV/AMCS '04: Proceedings of the International Conference on Modeling, Simulation & Visualization Methods, MSV '04 & Proceedings of the International Conference on Algorithmic Mathematics & Computer Science*, pages 399–405, Las Vegas, Nevada, USA, June 21-24, 2004.
42. Doron Nussbaum and Xiaonan Wu. An architecture of a scalable wireless monitoring system. In *Proceedings of the 25th International Conference of the IEEE Engineering in Medicine and Biology Society*, pages 1386–1389, Cancun, Mexico, 2003.

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Other Publications and Presentations

49. Doron Nussbaum. p-Piercing and Facility Location. *MITACS Workshop on Facility Location, Vancouver*, June 2002.
50. Doron Nussbaum and Jörg-Rüdiger Sack. Parallel Spatial Modelling. *Geoide Conference*, Fredericton, New Brunswick, June 21-22, 2001.
51. Rupert Brooks, Ji Chen, Doron Nussbaum and Jörg-Rüdiger Sack. A Parallel displacement operator. *Computational Cartography and Spatial Modelling Workshop*, Dagstuhl, Germany, May 6-11, 2001.
52. Mark Lanthier, Doron Nussbaum and Jörg-Rüdiger Sack. Parallel Shortest Path. *Computational Geometry Workshop*, Dagstuhl, Germany, March 7-12, 1999.
53. Doron Nussbaum, Network Computer Architecture. *Iona World 99*, San Francisco 1999.
54. Doron Nussbaum. Utility Infrastructure Management with Oracle's Network Computer Architecture. *Oracle Open World 98*, San Francisco, November 1998.
55. Doron Nussbaum. VISION* Distributed Architecture. Whitepaper, SHL Systemhouse 1998.

Software Development Projects

1. Doron Nussbaum and Peter Ostrom. ServiceRec - software for high schools: Tracking Community Activities of High School Students, used by Ashbury High School and Lisgar High School Software Development Project, 2013-present, www.servicerec.ca.
2. Giulio Maffini and Doron Nussbaum. Development of a Global Geographic Information System, Software Development Project, 2014.