

April 30, 2015

Alejandro López-Ortiz

Professor
School of Computer Science
University of Waterloo
Waterloo, Ontario N2L 3G1, Canada

Phone: (519)-888-4567 x 33284
Email: alopez-o@uwaterloo.ca
<http://www.cs.uwaterloo.ca/~alopez-o>

Education

- 1991-1996 **Doctor of Philosophy**, Computer Science, University of Waterloo, Canada. Title: On-line Target Searching in Bounded and Unbounded Domains. Supervisor: Dr. Prabhakar Ragde. (GPA A+)
- 1989-1990 **Master of Mathematics**, Computer Science, University of Waterloo, Canada. Title: Probabilistic Complexity Classes. Supervisor: Dr. Prabhakar Ragde. (GPA A+)
- 1985-1989 **Bachelors of Mathematics**, Mathematics, Universidad Nacional Autonoma de Mexico, Title: A Variant on a Numerical Method for Solving Systems of Differential Equations. Supervisor: Dr. Salvador Pérez-Esteva. (GPA 10/10)

Academic and Professional Interests

Applications of theoretical computer science. My research has focused on areas in which the methods and rigorous techniques of theoretical computer science push the state of the art in practical problems. More specifically, over the years I have explored and contributed to the following areas: on-line paging, cache conscious algorithms (particularly I/O aware data structures), algorithms for scheduling and constraint programming, algorithms for information retrieval, algorithms for networks and the internet, multi-core algorithms, algorithms and data structures for bathymetric data and path planning and robotics. In each of these cases practical problems often suggest theoretical developments and, conversely, advanced theoretical data structures and algorithms suitably adapted often lead to practical breakthroughs in performance.

Professional Academic Experience

Research

- 07/2012-present **Professor.** School of Computer Science, University of Waterloo (Cheriton faculty fellow, 2010-2013).
- 07/2004-06/2012 **Associate Professor (Tenured).** School of Computer Science, University of Waterloo
- 11/2007-08/2008 **Chief Scientist.** Discovery Engine. San Francisco, California.
- 08/2001-06/2004 **Assistant Professor.** School of Computer Science, University of Waterloo.
- 08/2001-present **Adjunct Professor.** Faculty of Computer Science, University of New Brunswick.
- 09/2000-08/2001 **Director of Internet Research.** Internap Network Services Corporation.
- 07/2001-08/2001 **Associate Professor.** Promoted *in-absentia*. Faculty of Computer Science. University of New Brunswick.
- 01/1998-07/2001 **Assistant Professor.** Director of Internet Computing Laboratory (4 faculty members; 7 graduate students). Faculty of Computer Science. University of New Brunswick.
- 02/1996-12/1997 **Research Scientist.** Senior Data Structures and Algorithms Specialist. Open Text Corporation.

Visiting Positions (three weeks or longer)

- 04/2014-04/2014 **Research Visit.** Université Paris Diderot (Paris 7), France.
- 03/2014-03/2014 **Visiting Professor.** University of Ljubljana, Slovenia.
- 02/2014-02/2014 **Research Visit.** Technical University of Braunschweig, Germany.
- 10/2011-11/2011 **Research Visit.** Karlsruhe Institute of Technology, Germany.
- 10/2010-11/2010 **Research Visit.** University of Haifa, Israel.
- 01/2009-04/2009 **Visiting Professor,** Max Planck Institute for Informatics, Saarbrücken, Germany.
- 03/2007-04/2007 **Research Visit.** University of Haifa, Israel.
- 08/1998-09/1998 **Research Visit.** University of Freiburg, Germany.

Teaching

Data Structures (Enriched version for advanced 2nd year students). Online Algorithms: Scheduling, Compression, Routing (graduate), Principles of Programming Languages (4th year). Online Algorithms: Beyond Competitive Analysis (graduate). Search Engines: From Design to Implementation (graduate). Adaptive, Online, and Parameterized Algorithms (graduate). Data Types and Data Structures (2nd year). Data Structures and Data Management (2nd year). Five Open Problems in Algorithms and Data Structures (graduate). Advanced Algorithms (4th year/graduate). Algorithms (3rd year). Algorithmic Foundations of the Internet (graduate). Computer Networks (4th year/graduate). Algorithmic Problems on the Internet (graduate). Operating Systems (3rd year course). Topics on Internet Research (graduate). Computer Systems Organization (3rd year). Advanced Algorithmic Techniques (4th year). Data Structures (3rd year). Discrete Structures I (1st year). Algorithmic Foundations of Robotics (4th year/ graduate). Numerical Analysis (3rd year). Computational Complexity (4th year/ graduate). Advanced Data Structures in C (2nd year). Data Structures and Algorithms (3rd year). Introduction to Programming (1st year).

Consulting

1. Terapath. Algorithmic advice for high performance systems. April 2007.
2. Office of Critical Infrastructure Protection and Emergency Preparedness, Department of National Defense, Government of Canada. An Architecture for Performance and Stability Measurements on the Internet. July-2003, February-2004.
3. Vigilant Systems. Advice on System Architecture and Code evaluation for a POS object-oriented system. July-October 2000.
4. Electronic Text Centre. Consulting for the SchoolNet Metadata project for Industry Canada, 1999.
5. Reid Advertising. Advice on HTML design and implementation issues for Reid Advertising, Waterloo, Canada. 1995.
6. ESI Systems. Advice in the selection process for a regional software distributor in Mexico for ESI Systems, Florida, USA. 1994.

Editorial

Journal

1. Editor. ACM Computing Reviews, 2013-present.
2. Guest Editor. Special issue of selected papers from CCCG 2013. Computational Geometry: Theory and Applications, 2013.
3. Guest Editor. Special issue of selected papers from LATIN 2010. Algorithmica, vol. 63, no.3, 2012.
4. Guest Co-editor joint with J. Ian Munro. Special issue of selected papers from SODA 2004. ACM Transactions on Algorithms, Volume 2, Number 4, October 2006.
5. Guest Co-editor. Special issue of selected papers from CAAN 2005. Journal of Internet Mathematics.

Area Editor

1. Online algorithms, Algorithms for modern computers. Encyclopedia of Algorithms 2nd Edition, in progress, 2014.

Steering Committees

1. Steering Committee Member. Canadian Conference on Computational Geometry (CCCG), 2014-2018.
2. Steering Committee Member. Latin-American Conference on Informatics (LATIN), 2010-2016.
3. DIMACS 2007-2013. Special Focus on Algorithmic Foundations of the Internet. Joint Organizing Committee with Jennifer Rexford, Princeton University and Rebecca Wright, Rutgers University

Program Chair

1. Dagstuhl Seminar on Data Structures and Advanced Models of Computation on Big Dat. Joint with Ulrich Meyer, Markus Nebel and Robert Sedgewick. 2016.
2. Dagstuhl Seminar on Data Structures and Advanced Models of Computation on Big Data. Joint with Ulrich Meyer and Robert Sedgewick. 2014.
3. 25th Canadian Conference on Computational Geometry (CCCG), 2013.
4. Conference on Space efficient data structures, streams and algorithms, Co-chair, 2013.
5. DIMACS Workshop on Competitive Algorithms for Packet Scheduling, Buffering and Routing in the Internet. Joint with Alex Kesselman, Google, Yishay Mansour, Tel Aviv University and Adi Rosen, CNRS, Paris. July 2011.
6. 9th Latin-American Symposium on Theoretical Informatics (LATIN), 2010.
7. Dagstuhl Seminar on Adaptive, Output Sensitive, Online and Parameterized Algorithms. Joint with R. Klein, R. Niedermeier and J. Barbay. 2009.
8. Dagstuhl Seminar on Robot Navigation. Joint with S. Fekete, R. Fleischer and R. Klein. 2006.
9. Workshop on Algorithms and Data Structures (WADS). Joint PC with Frank Dehne and Jorg R. Sack, 2005.
10. Workshop on Combinatorial and Algorithmic Aspects of Networking, 2004.
11. Dagstuhl Seminar on On-line Navigation. Joint with R. Fleischer and R. Klein. 2003.

Program committee member (arranged by year):

31st European Workshop on Computational Geometry (EuroCG), 2015. 27th Canadian Conference on Computational Geometry (CCCG), 2015. 23rd Annual European Symposium on Algorithms, Engineering and Applications Track (ESA) 2015, 10th International Symposium on Algorithms and Experiments for Sensor Systems, Wireless Networks and Distributed Robotics (ALGOSENSORS), 2014. 12th Workshop on Approximation and Online Algorithms (WAOA), 2014. Workshop on Trends in On-Line Algorithms, 2014. International Workshop on Algorithms for Large-Scale Information Processing in Knowledge Discovery (ALSIP), 2014. 29th European Workshop on Computational Geometry (EuroCG), 2013. 24th Annual Symposium on Combinatorial Pattern Matching (CPM), 2013. 15th Workshop on Algorithm Engineering and Experiments (ALENEX), 2013. 20th European Symposium on Algorithms, Design and Analysis Track (ESA), 2012. Fourth Workshop on Massive Data Algorithmics (MASSIVE), 2012. 25th Canadian Conference on Artificial Intelligence, 2012. 24th Canadian Conference on Computational Geometry (CCCG), 2012. ICCCN 2012 Networking for Sustainability, Reliability, and Energy Efficiency Track (ICCCN-NSRE), 2012. 8th Latin American Web Conference (LA-WEB 2012), 2012. 9th Workshop on Approximation and Online Algorithms (WAOA), 2011. 24th Canadian Conference on Artificial Intelligence, 2011. ICCCN 2011 Energy Efficient Networking Track (ICCCN-EENT), 2011. 17th edition of the Symposium on String Processing and Information Retrieval (SPIRE), 2010. 8th Workshop on Approximation and Online Algorithms (WAOA), 2010. 23rd Canadian Conference on Artificial Intelligence, 2010. Workshop on Algorithms and Computation (WALCOM), 2010. 8th Symposium on Experimental Algorithms, 2009. 7th Latin American Web Conference (LA-WEB 2009), 2009. 22nd Canadian Conference on Artificial Intelligence, 2009. 21st Canadian Conference on Artificial Intelligence, 2008. 23rd AAAI Conference on Artificial Intelligence (AAAI), 2008. 10th Workshop on Algorithm Engineering and Experiments (ALENEX), 2008. Workshop on Algorithms and Computation (WALCOM), 2008. 8th Latin-American Conference on Informatics (LATIN), 2008. 4th Workshop on Combinatorial and Algorithmic Aspects of Networking (CAAN), 2007. Workshop on Algorithms and Computation (WALCOM), 2007. 20th Canadian Conference on Artificial Intelligence, 2007. 3rd Workshop on Combinatorial and Algorithmic Aspects of Networking (CAAN), 2006. 7th International Conference on Computer Science (ENC), 2006. 8th Workshop on Algorithm Engineering and Experiments (ALENEX), 2006. 19th Canadian Conference on Artificial Intelligence, 2006. 2nd Workshop on Combinatorial and Algorithmic Aspects of Networking (CAAN), 2005. 15th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2004. 10th Annual International Computing and Combinatorics Conference (COCOON), 2004. 6th Latin-American Conference on Informatics (LATIN), 2004. 15th Canadian Conference on Computational Geometry (CCCG), 2003. 14th Canadian Conference on Computational Geometry (CCCG), 2002. 5th Latin-American Conference on Informatics (LATIN), 2002. 12th Canadian Conference on Computational Geometry (CCCG), 2000.

Journal/Conference referee (arranged by year)

Int. Journal of Foundations of Computer Science (IJFCS), 2015. Theoretical Computer Science, 2015. IEEE Transactions on Parallel and Distributed Systems (TPDS), 2015. Journal of Computer and System Sciences (JCSS), 2015. International Colloquium on Automata, Languages, and Programming (ICALP), 2015a, 2015b. ACM Symposium on the Theory of Computing (STOC), 2015. Journal of Computing and System Sciences (JCSS), 2014. RAIRO-Theoretical Informatics and Applications, 2014. Algorithmica, 2014. European Symposium of Algorithms, (ESA), 2014. International Colloquium on Automata, Languages, and Programming (ICALP), 2014. Theoretical Computer Science (TCS), 2014. ACM Symposium on Parallel Algorithms and Architectures (SPAA), 2014. International Journal of Networking and Computing (IJNC), 2013. European Symposium of Algorithms, (ESA), 2013. IEEE Symposium on Foundations of Computer Science (FOCS), 2013. Algorithmica 2013a, 2013b. Algorithms and Data Structures Symposium (WADS), 2013. International Colloquium on Automata, Languages, and Programming (ICALP), 2013a, 2013b. ACM Symposium on the Theory of Computing (STOC), 2013. ACM-SIAM Symposium on Data Structures (SODA), 2013a, 2013b. Algorithmica 2012. Workshop on Approximation and Online Algorithms (WAOA), 2012. Frontiers of Algorithmics Workshop (FAW), 2012. Latin-American Conference on Informatics (LATIN), 2012. Symposium on Theoretical Aspects of Computer Science (STACS), 2012. Scandinavian Workshop on Algorithms and Theory (SWAT), 2012. ACM-SIAM Symposium on Data Structures (SODA), 2012a, 2012b. SIAM Journal on Control and Optimization (SICON), 2011. Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS), 2011. Algorithms and Data Structures Symposium (WADS), 2011. ACM Symposium on Principles of Distributed Computing, (PODC), 2011. ACM Symposium on Computational Geometry (SoCG), 2011a, 2011b. ACM Symposium on the Theory of Computing (STOC), 2011. ACM-SIAM Symposium on Data Structures (SODA), 2011. Information Processing Letters (IPL), 2010. ACM Transactions on Algorithms (TALG), 2010. International Colloquium on Automata, Languages, and Programming (ICALP), 2010. Journal Computing, 2010. ACM Symposium on Computational Geometry (SoCG), 2010. ACM-SIAM Symposium on Data Structures (SODA), 2010a, 2010b. ACM Transactions on Information Systems, 2009. Acta Informatica, 2009. International Journal of Computational Geometry and Applications, 2009. Theory of Computing Systems, 2009. Journal of Scheduling, 2009. Theoretical Computer Science (TCS), 2009. Discrete and Computational Geometry (DCG), 2009. IEEE Symposium on Foundations of Computer Science (FOCS), 2009. Algorithms and Data Structures Symposium, (WADS), 2009. ACM Transactions on Algorithms, 2009. Human Language Technologies: Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT) 2009. Communications of the ACM (new series) (CACM), 2008. ACM Symposium on the Theory of Computing (STOC), 2008. Mathematics of Operations Research Journal (MOR), 2008. Data Compression Conference (DCC), 2008. ACM-SIAM Symposium on Data Structures (SODA), 2008. IEEE Symposium on Foundations of Computer Science (FOCS), 2007a, 2007b, 2007c, 2007d, 2007e. Mathematical Foundations of Computer Science, (MFCS), 2007. European Symposium of Algorithms, (ESA), 2007a, 2007b. International Colloquium on Automata, Languages, and Programming (ICALP), 2007. SIAM Journal on Computing, 2007a, 2007b. International Symposium on Distributed Computing (DISC), 2007. ACM-SIAM Symposium on Data Structures (SODA), 2007a, 2007b, 2007c, 2007d, 2007e, 2007f. Algorithmica, 2006. IEEE/ACM Transactions on Networking, 2006. International Colloquium on Automata, Languages and Programming (ICALP), 2006a, 2006b, 2006c. ACM Transactions on Algorithms (TALG), 2006. Combinatorial Pattern Matching (CPM), 2006a, 2006b. Latin-American Conference on Informatics (LATIN), 2006. ACM Transactions on Algorithms (TALG), 2005a, 2005b. Computational Geometry: Theory and Applications (CGTA), 2005. Artificial Intelligence Journal (AIJ), 2005. Theoretical Computer Science (TCS), 2005. ACM Symposium on the Theory of Computing (STOC) 2005. ACM Symposium on Computational Geometry (SoCG), 2005a, 2005b, 2005c. Symposium on Theoretical Aspects of Computer Science (STACS), 2005. ACM-SIAM Symposium on Data Structures (SODA), 2005. European

Symposium of Algorithms, (ESA), 2004. SIAM Journal on Computing, 2004. Informatica, 2004. ACM Symposium on Computational Geometry (SoCG), 2004. Scandinavian Workshop on Algorithms and Theory (SWAT), 2004. Theoretical Computer Science (TCS), 2004a, 2004b. IEEE Transactions on Robotics, 2003a, 2003b. Journal of Experimental Algorithms, 2003. ACM Symposium on Parallel Algorithms and Architectures (SPAA), 2003. International Symposium on String Processing and Information Retrieval (SPIRE) 2003. Workshop on Algorithmic Engineering and Experiments (ALENEX), 2003a, 2003b, 2003c, 2003d. SIAM Journal on Computing, 2002. International Colloquium on Automata, Languages, and Programming (ICALP), 2002. Theoretical Computer Science (TCS), 2002a, 2002b. Nordic Journal of Computer Science, 2002. Acta Informatica, 2001. Information Processing Letters (IPL), 2000. Scandinavian Workshop on Algorithms and Theory (SWAT), 2000. Computational Geometry: Theory and Applications (CGTA), 1999. Symposium on Theoretical Aspects of Computer Science (STACS), 1999. ACM Symposium on Computational Geometry (SoCG), 1999. Information Processing Letters (IPL), 1997. Information Processing Letters (IPL), 1996.

Editorial Book review

- Princeton University Press, 2006;
- John Wiley & Sons. Wiley-Interscience Publication, 2000.

Grant review for National and International Funding Agencies

NSERC 2011, 2009, 2007a, 2007b, 2006, 2004, 2003. FONDECYT, Chile, 2014 (declined), 2007. Israel Science Foundation (ISF), 2014 (declined), 2011, 2007. MITACS, 2005. CONACYT, Mexico, 2009, Czech Science Foundation 2011 (declined), Research Grants Council, Hong Kong, 2013, Danish Council for Independent Research, 2014 (declined).

External Tenure and Promotion committees

2008, 2012, 2013a, 2013b, 2013c, 2013d.

Publications

Books and Volumes Edited

1. *Proceedings of the Conference on Space Efficient Data Structures, Streams and Algorithm*. Andrej Brodnik, A. López-Ortiz, Venkatesh Raman, Alfredo Viola, Eds. Lecture Notes in Computer Science, 8066, Springer, 2013.
2. *Proceedings of the 25th Canadian Conference on Computational Geometry*. Therese Biedl and A. López-Ortiz, Eds. 2013.
3. *Proceedings of the 9th Latin American Theoretical Informatics Symposium*. A. López-Ortiz, ed. Lecture Notes in Computer Science, 6034, Springer, 2010.
4. *Proceedings of the Workshop on Combinatorial and Algorithmic Aspects of Networking*, Angèle Hamel and A. López-Ortiz, eds. Lecture Notes in Computer Science, 3405, Springer, 2005.
5. *Proceedings of the 9th Workshop on Algorithms and Data Structures*, eds. Frank Dehne, A. López-Ortiz and Jörg-Rüdiger Sack, Lecture Notes in Computer Science, 3608, Springer, 2005.

Book Chapters

6. “Data Structures and Advanced Models of Computation on Big Data”, A. López-Ortiz, Ulrich Carsten Meyer, Robert Sedgewick: Dagstuhl Report, vol. 4 no. 2, pp. 129-149, 2014.
7. “A Survey of Algorithms and Models for List Update”, Shahin Kamali, A. López-Ortiz. *Proceedings of Space-Efficient Data Structures, Streams, and Algorithms*, Lecture Notes in Computer Science, 8066, Springer, 2013.
8. “Overprovisioning or Rightprovisioning?”. A López-Ortiz. *Proceedings of the Fourth Workshop on Combinatorial and Algorithmic Aspects of Networking*. Lecture Notes in Computer Science, 4852, Springer, 2007.
9. “Closing the gap between theory and practice: New measures for on-line algorithm analysis”, Reza Dorrigiv and A. López-Ortiz. *Proceedings of the 2008 Workshop on Algorithms and Computation (WALCOM)*, Lecture Notes in Computer Science, 4921, 2008.
10. “Algorithmic Foundations of the Internet”. A. López-Ortiz. *Proceedings of the First Workshop on Combinatorial and Algorithmic Aspects of Networking*, Angèle Hamel and A. López-Ortiz, eds. Lecture Notes in Computer Science, 3405, Springer Verlag, 2005.
11. “Search Engines and Web Information Retrieval”. *Proceedings of the First Workshop on Combinatorial and Algorithmic Aspects of Networking*, Angèle Hamel and A. López-Ortiz, eds. Lecture Notes in Computer Science, 3405, Springer Verlag, 2005.

Journal Articles

12. “Kernelization Algorithms for Packing Problems Allowing Overlaps (Extended Version)”. Henning Fernau, A. López-Ortiz, and Jazmín Romero. To appear in *ACM Transactions on Computation Theory*, 2015.
13. “Online Scheduling FIFO Policies with Admission and Pushout”. Kirill Kogan, A. López-Ortiz, Sergey Nikolenko and Alexander Sirotkin. To appear in *Theory of Computing Systems*, 2015.
14. “Online Bin Packing with Advice”. Joan Boyar, Shahin Kamali, A. López-Ortiz and Kim S. Larsen. To appear in *Algorithmica*, 2015.
15. “On Minimum- and Maximum-Weight Minimum Spanning Trees with Neighborhoods”, Reza Dorrigiv, Robert Fraser, Meng He, Shahin Kamali, Akitoshi Kawamura, A. López-Ortiz, and Diego Seco. In **Special Issue on best papers from WAOA 2012**. *Theory of Computing Systems*, vol. 56, n. 1, pp. 220-250, 2015.
16. “Parameterized Analysis of Paging and List Update Algorithms”, Reza Dorrigiv, Martin R. Ehmsen, A. López-Ortiz. *Algorithmica*, vol. 71, n. 2, p. 330-353, 2015.

17. "On the Advice Complexity of the k-Server Problem under Sparse Metrics", Sushmita Gupta, Shahin Kamali and A. López-Ortiz. To appear in *Theory of Computing Systems*, 2015.
18. "Optimal Scheduling of Contract Algorithms for Any-time Problems", A. López-Ortiz, Spyros Angelopoulos and Angele Hamel. *Journal of Artificial Intelligence Research*, vol. 51, pp. 533-554, 2014.
19. "Multi-target ray searching problems", Spyros Angelopoulos; A. Lopez-Ortiz; Konstantinos Panagiotou. *Theoretical Computer Science*, v. 540, pp. 2-12, 2014.
20. "Parameterized algorithms for the H-packing with t-overlap problem". Jazmín Romero and A. López-Ortiz. **Special Issue on** best papers from WALCOM 2014, *Journal of Graph Algorithms and Applications*, vol. 8, no. 5, pp. 515-538, 2014.
21. "The Hausdorff Core Problem on Simple Polygons", Reza Dorrigiv, Stephane Durocher, Arash Farzan, Robert Fraser, A. López-Ortiz, J. Ian Munro, Alejandro Salinger, and Matthew Skala. *Journal of Computational Geometry*, vol. 5, no. 1, pp. 14-40, 2014.
22. "Toward a Generic Hybrid CPU-GPU Parallelization of Divide-and-Conquer Algorithms", A. López-Ortiz, Alejandro Salinger and Robert Suderman. *International Journal of Networking and Computing*, vol. 4, no. 1, pp. 131-150, 2014.
23. "COCA Filters: Co-Occurrence Aware Bloom Filters", Pedram Ghodsnia, A. López-Ortiz, J. Ian Munro and Kamran Tirdad. **Invited paper** *Journal of Discrete Algorithms*, vol.8, pp. 63-74, 2013.
24. "On the Discrete Unit Disk Cover Problem". Gautam K. Das, Robert Fraser, Alejandro López-Ortiz, and Bradford G. Nickerson. *International Journal on Computational Geometry and Applications*, vol. 22, no. 5, pp. 407-419, 2012.
25. "List Update with Probabilistic Locality of Reference". Reza Dorrigiv, A. López-Ortiz. *Information Processing Letters*, vol. 112, pp. 540-543, 2012.
26. "Optimal Strategies for the List Update Problem Under the MRM Alternative Cost Model". Alexander Golynski, A. López-Ortiz. *Information Processing Letters*, vol 112, pp. 218-222, 2012.
27. "The Cost of Cache-Oblivious Searching", Michael A. Bender, Gerth Stølting Brodal, Rolf Fagerberg, Dongdong Ge, Simai He, Haodong Hu, John Iacono and A. López-Ortiz. *Algorithmica*, vol. 61, no. 2, pp. 463-505, 2011.
28. "Efficient View Point Selection for Silhouettes of Convex Polyhedra". Therese C. Biedl, Masud Hasan, A. López-Ortiz. *Computational Geometry: Theory and Applications*, vol. 44, pp. 399-408, 2011.
29. "Untangled Monotonic Chains and Adaptive Range Search", Diego Arroyuelo, Francisco Claude, Reza Dorrigiv, Stephane Durocher, Meng He, A. López-Ortiz, J. Ian Munro, Patrick K. Nicholson, Alejandro Salinger, Matthew Skala. **Invited paper** from the 20th International Symposium on Algorithms and Computation (ISAAC). *Theoretical Computer Science*, vol 412, no. 32, pp. 4200-4211, 2011.
30. "Reconstructing convex polygons and convex polyhedra from edge and face counts in orthogonal projections". Therese Biedl, Masud Hasan and A. López-Ortiz. *International Journal on Computational Geometry and Applications*, vol 21. no 2, pp. 215-239, 2011.
31. "Sorting with Networks of Data Structures", Therese Biedl, Alexander Golynski, Angèle M. Hamel, A. López-Ortiz, and J. Ian Munro. *Discrete Applied Mathematics*, vol. 158, no. 15, pp. 1579-1586, 2010.
32. "An improved line-separable algorithm for discrete unit disk cover". Francisco Claude, Gautam K. Das, Reza Dorrigiv. Stephane Durocher, Robert Fraser, A. López-Ortiz, Bradford G. Nickerson and Alejandro Salinger. *Discrete Mathematics, Algorithms and Applications (DMAA)*, vol. 2, n. 1, pp. 77-87, 2010.
33. "On the Relative Dominance of Paging Algorithms", Reza Dorrigiv, A. López-Ortiz, J. Ian Munro. In *Theoretical Computer Science*, vol. 410, pp. 3694-3701, 2009.
34. "An Experimental Investigation of Set Intersection Algorithms for Text Searching". Jérémy Barbay, A. López-Ortiz, Tyler Lu, Alejandro Salinger. **Invited paper** from the 5th International Workshop on Experimental Algorithms (WEA 2006), *Journal on Experimental Algorithmics*, vol. 14, pp. 3.7-3.24, 2009.
35. "A Quadratic Propagator for the Inter-Distance Constraint", Claude-Guy Quimper, A. López-Ortiz, Gilles Pesant. **Invited submission** to Special Issue of *Constraint Programming Letters* journal on selected constraint programming papers from AAAI'06, *Constraint Programming Letters*, vol 3, pp.21-35, 2008.
36. "An Efficient Bound Consistency Algorithm for the Global Cardinality Constraint Problem". Claude-Guy. Quimper, Alexander Golynski, A. López-Ortiz, and Peter van Beek. In *Journal of Constraints*, pp. 115-135, 2005. **Invited paper** to special issue of selected papers from 9th International Conference on Principles and Practice of Constraint Programming (CP'03).
37. "Fast String Sorting using Order Preserving Compression". A. López-Ortiz, Mahdi Mirzazadeh, Mohammed Ali Safari and Hossein SheikhAttar. *Journal of Experimental Algorithmics*, v. 10, 2005.
38. "Longest Increasing Subsequences in Sliding Windows", Michael H. Albert, Alexander Golynski, Angele M. Hamel, A. López-Ortiz Srinivas S. Rao and Mohammed Ali Safari. *Theoretical Computer Science*, v. 321, pp.405-414, 2004.
39. "On-line Parallel Heuristics and Robot Searching under the Competitive Framework". A. López-Ortiz and Sven Schuierer. *Theoretical Computer Science*, v. 310, no 1-3, pp. 527-537, 2004.
40. "Finding Hidden Independent Sets in Interval Graphs". Therese Biedl, Brona Brejová, Erik D. Demaine, Angele M. Hamel, A. López-Ortiz and Tomas Vinař. *Theoretical Computer Science*, v. 310, no 1-3, pp. 287-307, 2004.
41. "A Linear Lower Bound on Index Size for Text Retrieval". Erik D. Demaine and A. López-Ortiz. *Journal of Algorithms. Journal of Algorithms*, Vol. 48, no. 1, pp. 2-15, 2003. **Invited paper** to special issue of selected papers from the 12th ACM-SIAM Symposium on Discrete Algorithms, 2001.

42. "Drawing $K_{2,n}$: A Lower Bound". Therese Biedl, Timothy Chan, A. López-Ortiz. *Information Processing Letters*, v. 85, n. 6, 2003, pp. 303-305. (Also in CCCG'02 conference).
43. "On Universally Easy Classes for NP-complete Problems". Erik D. Demaine*, A. López-Ortiz and J. Ian Munro. *Theoretical Computer Science*, vol. 304, no 1-3, pp. 471-476, 2003, (Also in SODA'01).
44. "Searching and On-line Recognition of Star Shaped Polygons". A. López-Ortiz and Sven Schuierer. *Information and Computation*, vol. 185, no. 1, pp. 66-88, 2003.
45. "Online Routing in Convex Subdivisions". Prosenjit Bose, Andrej Brodnik, Svante Carlsson, Erik D. Demaine, Rudolf Fleischer, A. López-Ortiz, Pat Morin, and J. Ian Munro. *International Journal of Computational Geometry and Applications*, v. 12, n. 4, August 2002, pp. 283-295. **Invited paper** to special issue of selected papers from the 11th Annual International Symposium on Algorithms and Computation, (ISAAC 2000).
46. "Lower Bounds for Streets and Generalized Streets". A. López-Ortiz and Sven Schuierer. *International Journal of Computational Geometry and Applications*, v. 11, n.4, 2001, pp 401-421.
47. "The Ultimate Strategy to Search on m-Rays?" A. López-Ortiz and Sven Schuierer. *Theoretical Computer Science*, v. 261, n.1, pp. 267-295, 2001. **Invited paper** to special issue of selected papers from 4th Annual International Computing and Combinatorics Conference, (COCOON'98).
48. "Rounding Cubic Roots and the American Mathematical Monthly". A. López-Ortiz and Luke O'Connor. Research note. *Miscelánea Matemática*, Mexican Mathematical Society, July 1999.
49. "New Lower Bounds for Element Distinctness on a One-tape Turing Machine". A. López-Ortiz. *Information Processing Letters*, v. 51, 1994, pp.311-314.
50. "Reasoning over Impossible Worlds". A. López-Ortiz. *Journal of Computing and Information*, Vol 1, 1995.

Conference Publications

51. "Local Policies for Efficiently Patrolling a Triangulated Region by a Robot Swarm", Daniela Maftuleac, Seoung Kyou Lee, Sandor P. Fekete, Aditya Kumar Akash, A. López-Ortiz, and James McLurkin. To appear in *International Conference on Robotics and Automation (ICRA)*, 2015.
52. "Paid Exchanges are Worth the Price", A. López-Ortiz, Marc Renault and Adi Rosen. To appear in *32nd Symposium on Theoretical Aspects of Computer Science (STACS)*, pp. 636-648, 2015.
53. "Efficient Online Strategies for Renting Servers in the Cloud". Shahin Kamali and A. López-Ortiz. Proceedings of the 41st *International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM)*, pp. 277-288, 2015.
54. "Algorithms in the Ultra-Wide Word Model", Arash Farzan, A. López-Ortiz, Patrick K. Nicholson, Alejandro Salinger. To appear in Proceedings of *annual conference on Theory and Applications of Models of Computation (TAMC)*, 2015.
55. "Kernelization Algorithms for Packing Problems Allowing Overlaps", Henning Fernau, A. López-Ortiz, and Jazmin Romero. To appear in Proceedings of *annual conference on Theory and Applications of Models of Computation (TAMC)*, 2015.
56. "Better Compression through better List Update Algorithms". Shahin Kamali and A. López-Ortiz. Proceedings of *2014 Data Compression Conference (DCC)*, pp. 372-381, 2014.
57. "On the Online Fault-Tolerant Server Consolidation Problem". Khuzaima Daudjee, Shahin Kamali and A. López-Ortiz. Proceedings of the *26th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pp. 12-21, 2014.
58. "Multi-Pivot Quicksort: Theory and Experiments". Shrину Kushagra, A. López-Ortiz, Ian Munro and Aurick Qiao. Proceedings of the *16th Meeting on Algorithm Engineering and Experiments (ALENEX)*, pp.47-60, 2014.
59. "Online Bin Packing with Advice". Joan Boyar, Shahin Kamali, A. López-Ortiz and Kim S. Larsen. Proceedings of the *31st Symposium on Theoretical Aspects of Computer Science (STACS)*, pp. 174-186, 2014.
60. "On the List Update Problem with Advice". Joan Boyar, Shahin Kamali, A. López-Ortiz and Kim S. Larsen. Proceedings of the *8th International Conference on Language and Automata Theory and Applications (LATA)*, LNCS 8370, Springer, 2014.
61. "The G-Packing with t-Overlap Problem". Jazmin Romero and A. López Ortiz. Proceedings of *2014 Workshop on Algorithms and Computation (WALCOM)*, pp. 114-124, LNCS 8344, Springer, 2014.
62. "A Parameterized Algorithm for Packing Overlapping Subgraphs", Jazmin Romero and A. López Ortiz. Proceedings of the *9th International Computer Science Symposium in Russia (CSR)*, pp. 325-336, 2014.
63. "Balancing Work and Size with Bounded Buffers". Kirill Kogan, A. López-Ortiz, Sergey Nikolenko, Gabriel Scalosub and Michael Segal. Proceedings of the *6th International Conference on Communication Systems and Networks (COMSNETS)*, IEEE, pp.1-8, 2014.
64. "Almost Online Square Packing". Shahin Kamali and A. López-Ortiz. To appear in Proceedings of the *26th Canadian Conference on Computational Geometry (CCCG)*, 2014.
65. "Patrolling a Region with a Structured Swarm of Robots with Limited Individual Capabilities". Sándor P. Fekete, Seoung Kyou Lee, A. López-Ortiz, Daniela Maftuleac, James McLurkin. Proceedings of *First Workshop on Robotic Sensor Networks (RSN)*, 2014.
66. "Faster and Smaller inverted indices with Treaps". Roberto Konow, Gonzalo Navarro, Charles Clarke, A. López-Ortiz. Proceedings of the *36th Annual ACM SIGIR Conference, (SIGIR)*, pp. 193-202, 2013.
67. "Efficient Demand Assignment in Multi-Connected Microgrids with a Shared Central Grid". Kirill Kogan, Sergey Nikolenko, Srinivasan Keshav and A. López-Ortiz. Proceedings of the *3th IFIP Conference on Sustainable Internet and ICT for Sustainability, (SustainIT)*, IEEE, pp.1-5, 2013.

68. "The Distance 4-Sector of Two Points is Unique". Robert Fraser, Meng He, Akitoshi Kawamura, Alejandro Lopez-Ortiz, J. Ian Munro and Patrick K. Nicholson. Proceedings of the *24th International Symposium on Algorithms and Computation (ISAAC)*, LNCS 8283, Springer, pp. 612-622, 2013.
69. "Orthogonal Query Recommendation". Hossein Vahabi, Margareta Ackerman, David Loker, Ricardo Baeza-Yates and A. López-Ortiz. Proceedings of *7th ACM Conference on Recommender Systems, (RecSys)*, pp. 33-40, 2013.
70. "On Advice Complexity of the k-server Problem under Sparse Metrics". Sushmita Gupta, Shahin Kamali and A. López-Ortiz. Proceedings of *20th International Colloquium on Structural Information and Communication Complexity (SIROCCO)*, LNCS 8179, Springer, pp. 55-67, 2013.
71. "On the Sublinear Processor Gap for Parallel Architectures", A. López-Ortiz and Alejandro Salinger. Proceedings of *10th annual conference on Theory and Applications of Models of Computation (TAMC)*, LNCS 7876, Springer, pp. 193-204, 2013.
72. "Context-Based Algorithms for the List-Update Problem under Alternative Cost Models", Shahin Kamali, Susana Ladra, A. López-Ortiz and Diego Seco. Proceedings of *2013 Data Compression Conference (DCC)*, pp. 361-370, 2013.
73. "Towards a Generic Hybrid CPU-GPU Parallelization of Divide-and-Conquer Algorithms", A. López-Ortiz, Alejandro Salinger and Robert Suderman. Proceedings of the *15th Workshop on Advances on Parallel and Distributed Processing Symposium (IPDPS Workshop APDCM)*, IEEE, pp. 601-610, 2013.
74. "Multi-Queued Network Processors for Packets with Heterogeneous Processing Requirements", Kirill Kogan, A. López-Ortiz, Sergey Nikolenko, and Alexander Sirotkin. Proceedings of the *Fifth International Conference on Communication Systems and Networks (COMSNETS)*, IEEE, pp. 1-10, 2013.
75. "Broadcasting in Conflict-Aware Multi-Channel Networks". Francisco Claude, Reza Dorrigiv, Shahin Kamali, A. López-Ortiz, Pawel Pralat, Jazmin Romero, Alejandro Salinger and Diego Seco. Proceedings of the *2013 Workshop on Algorithms and Computation (WALCOM)*, Lecture Notes in Computer Science, 7748, Springer, pp. 158-169, 2013.
76. "Efficient Demand Assignment in Multi-Connected Microgrids". Kirill Kogan, Sergey Nikolenko, Srinivasan Keshav and A. López-Ortiz. Proceedings of the *4th International Conference on Future Energy Systems (ACM e-Energy)*, pp. 277-278, 2013.
77. "A Taxonomy of Semi-FIFO Policies", Kirill Kogan, A. López-Ortiz, Sergey Nikolenko, and Alexander Sirotkin. Proceedings of the *31st IEEE International Performance Computing and Communications Conference (IPCCC)*, pp. 295-304, 2012.
78. "FIFO Queueing Policies for Packets with Heterogeneous Processing". Kirill Kogan, A. López-Ortiz, Sergey Nikolenko, Alexander Sirotkin and Denis Tugaryov. Proceedings of the *1st Mediterranean Conference on Algorithms (MedAlg)*, Lecture Notes in Computer Science, 7659, Springer, pp. 248-260, 2012.
79. "Minimizing Cache Usage in Paging". A. López-Ortiz and Alejandro Salinger. Proceedings of the *10th Workshop on Approximation and Online Algorithms (WAOA)*, pp. 145-158, 2012.
80. "On Minimum- and Maximum-Weight Minimum Spanning Trees with Neighborhoods". Reza Dorrigiv, Robert Fraser, Meng He, Shahin Kamali, Akitoshi Kawamura, A. López-Ortiz, and Diego Seco. Proceedings of the *10th Workshop on Approximation and Online Algorithms (WAOA)*, pp. 93-106, 2012.
81. "Paging for Multi-core Shared Caches". A. López-Ortiz and Alejandro Salinger. Proceedings of the *3rd ACM Conference on Innovations in Theoretical Computer Science (ITCS)*, (formerly ICS), pp. 113-127, 2012.
82. "REWIRE: An Optimization-based Framework for Data Center Network Expansion and Upgrade Design". Andrew Curtis, Tommy Carpenter, Mustafa Elsheikh, A. López-Ortiz, Srinivasan Keshav. Proceedings of the *31st Annual IEEE International Conference on Computer Communications (INFOCOM)*, 2012.
83. "The Within-Strip Discrete Unit Disk Cover Problem". Robert Fraser, A. López-Ortiz. Proceedings of the *24th Canadian Conference on Computational Geometry (CCCG)*, pp. 53-58 2012.
84. "Optimal Average Case Strategy for Looking Around a Corner". Reza Dorrigiv, A. López-Ortiz, Selim Tawfik. Proceedings of the *24th Canadian Conference on Computational Geometry (CCCG)*, pp. 277-282, 2012.
85. "A New Perspective on List Update: Probabilistic Locality and Working Set", Reza Dorrigiv and A. López-Ortiz. Proceedings of the *9th Workshop on Approximation and Online Algorithms (WAOA)*. Lecture Notes in Computer Science, 7164, Springer, pp. 150-163, 2011.
86. "COCA Filters: Co-Occurrence Aware Bloom Filters", Pedram Ghodsnia, A. López-Ortiz, J. Ian Munro and Kamran Tirdad. Proceedings of the *18th International Symposium on String Processing and Information Retrieval (SPIRE)*, Lecture Notes in Computer Science, 7024, Springer, pp. 313-325, 2011. Invited submission to Journal of Discrete Algorithms on selected best papers from SPIRE.
87. "Multi-target Ray Searching Problems", Spyros Angelopoulos, A. López-Ortiz and Konstantinos Panagiotou. Proceedings of the *Algorithms and Data Structures Symposium (WADS)*, Lecture Notes in Computer Science, 6844, Springer, pp. 37-48, 2011.
88. "A Fast Algorithm for Multi-Machine Scheduling Problems with Jobs of Equal Processing Times", Claude-Guy Quimper, A. Lopez-Ortiz. Proceedings of the *28th Symposium on Theoretical Aspects of Computer Science (STACS)*, LIPIcs 9, pp. 380-391, 2011.
89. "On the Discrete Unit Disk Cover Problem", Gautam Das, Robert Fraser, A. López-Ortiz, Bradford Nickerson. Proceedings of the *2011 Workshop on Algorithms and Computation (WALCOM)*, Lecture Notes in Computer Science, 6552, Springer, pp. 146-157, 2011.
90. "Brief announcement: paging for multicore processors". Alejandro López-Ortiz, Alejandro Salinger. Proceedings of the *23rd ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pp. 137-138, 2011.

91. "LEGUP: Using Heterogeneity to Reduce the Cost of Data Center Network Upgrades", Andrew Curtis, A. López-Ortiz, and S. Keshav. Proceedings of the *2010 ACM Conference on Emerging Networking Experiments and Technology (CoNEXT)*, article no.14, 12 pages, 2010.
92. "Practical Discrete Unit Disk Cover Using an Exact Line-Separable Algorithm", Reza Dorrigiv, Stephane Durocher, Robert Fraser, A. López-Ortiz, Alejandro Salinger. Proceedings of the *20th International Symposium on Algorithms and Computation (ISAAC)*, Lecture Notes in Computer Science, 5878, Springer, pp. 45-54, 2009.
93. "Online Sorted Range Reporting", Gerth Stølting Brodal, Rolf Fagerberg, Mark Greve, A. López-Ortiz. Proceedings of the *20th International Symposium on Algorithms and Computation (ISAAC)*, Lecture Notes in Computer Science, 5878, Springer, pp. 173-182, 2009.
94. "Untangled Monotonic Chains and Adaptive Range Search", Diego Arroyuelo, Francisco Claude, Reza Dorrigiv, Stephane Durocher, Meng He, A. López-Ortiz, J. Ian Munro, Patrick K. Nicholson, Alejandro Salinger, Matthew Skala. Proceedings of the *20th International Symposium on Algorithms and Computation (ISAAC)*, Lecture Notes in Computer Science, 5878, Springer, pp. 203-212, 2009.
95. "Parameterized Analysis of Paging and List Update Algorithms", Reza Dorrigiv, Martin R. Ehmsen, A. Lopez-Ortiz. Proceedings of the *7th Workshop on Approximation and Online Algorithms (WAOA)*, Lecture Notes in Computer Science, 5893, Springer, pp.104-115, 2009.
96. "Interruptible algorithms for Multi-Problem Solving", Spyros Angelopoulos, A. López-Ortiz. Proceedings of the *21st International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 380-386, 2009.
97. "Finding a Hausdorff Core of a Polygon: On Convex Polygon Containment with Bounded Hausdorff Distance", Reza Dorrigiv, Stephane Durocher, Arash Farzan, Robert Fraser, A. Lopez-Ortiz, J. Ian Munro, Alejandro Salinger and Matthew Skala. Proceedings of the *11th Algorithms and Data Structures Symposium, (WADS)*, Lecture Notes in Computer Science, 5564, Springer, pp.218-229, 2009.
98. "Application of Self-Organizing Data Structures to Data Compression", Reza Dorrigiv, A López-Ortiz and J. Ian Munro. Proceedings of the *8th International Symposium on Experimental Algorithms (SEA)*, Lecture Notes in Computer Science, 5526, Springer, pp.137-148, 2009.
99. "Capacity Provisioning a Valiant Load-Balanced Network", Andrew Curtis and A. López-Ortiz. Proceedings of the *28th IEEE Conference on Computer and Communications (INFOCOM)*, pp. 3006-3010, 2009.
100. "Two-dimensional string matching techniques for protein contact maps", Robert Fraser and A. López-Ortiz. Poster presentation in *16th Annual International Conference Intelligent Systems for Molecular Biology (ISMB)* 2008.
101. "Optimal Scheduling of Contract Algorithms with Soft Deadlines", A. López-Ortiz, Spyros Angelopoulos and Angele Hamel. Proceedings of the *23rd Conference on Artificial Intelligence (AAAI-08)*, pp. 868-873, 2008.
102. "Optimal Speedup on a Low-Degree Multi-Core Parallel", Reza Dorrigiv, A. López-Ortiz, and Alejandro Salinger. Proceedings of the *20th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pp. 185-187, 2008.
103. "Adaptive Searching in One and Two Dimensions", Reza Dorrigiv, A. López-Ortiz, Proceedings of the *20th Canadian Conference on Computational Geometry (CCCG)*, 2008.
104. "Defensive Strategies for a Soccer Goalkeeper with a Single Adversary", Robert Fraser, Alejandro Salinger, Reza Dorrigiv, Joseph D. Horton and A. López-Ortiz. *18th Annual Canadian Conference on Intelligent Systems (IS)*, 2008.
105. "List Update with Locality of Reference", Spyros Angelopoulos, Reza Dorrigiv, and A. López-Ortiz. Proceedings of the *8th Latin-American Conference on Informatics (LATIN)*, Lecture Notes in Computer Science, 4957, Springer, pp. 399-410, 2008.
106. "Experimental Evaluation of List Update Algorithms for Data Compression", Reza Dorrigiv, A. López-Ortiz and J. Ian Munro. Proceedings of the *2008 Data Compression Conference (DCC)*, IEEE Computer Society, pp. 512, 2008.
107. "On Certain New Models for Paging with Locality of Reference", Reza Dorrigiv and A. López-Ortiz. Proceedings of the *2008 Workshop on Algorithms and Computation (WALCOM)*, Lecture Notes in Computer Science, 4921, Springer, pp. 200-209, 2008.
108. "On the Relative Dominance of Paging Algorithms", Reza Dorrigiv, A. López-Ortiz, J. Ian Munro. Proceedings of the *18th International Symposium on Algorithms and Computation (ISAAC)*, Lecture Notes in Computer Science, 4835, Springer, pp. 488-499, 2007.
109. "Reconstructing convex polygons and polyhedra from edge and face counts in orthogonal projections", Masud Hasan, Therese Biedl and A. López-Ortiz. Proceedings of the *IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS)*, Lecture Notes in Computer Science, 4855, Springer, pp 400-411, 2007.
110. "Search Algorithms for Unstructured Peer-to-Peer Networks", Reza Dorrigiv, A. López-Ortiz, Pawel Pralat. Proceedings of the *32nd Annual IEEE Conference on Local Computer Networks (LCN)*, pp. 343-352, 2007.
111. "On the Separation and Equivalence of Paging Strategies", Spyros Angelopoulos, Reza Dorrigiv, and A. López-Ortiz. Proceedings of the *18th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 229-237, 2007.
112. "Optimal Scheduling of Contract Algorithms for Any-time Problems", A. López-Ortiz, Spyros Angelopoulos and Angele Hamel. Proceedings of the *21st National Conference on Artificial Intelligence (AAAI-06)*, 2006.
113. "A Quadratic Propagator for the Inter-Distance Constraint", Claude-Guy Quimper, A. López-Ortiz, Gilles Pesant. Proceedings of the *21st National Conference on Artificial Intelligence (AAAI-06)*, 2006.

114. "Faster Adaptive Set Intersections for Text Searching". J r my Barbay, A. L pez-Ortiz, Tyler Lu. Proceedings of the *5th International Workshop on Experimental Algorithms (WEA)*, Lecture Notes in Computer Science 4007, Springer, pp. 146-157, 2006. Also **invited paper** to special issue of ACM Journal of Experimental Algorithmics.
115. "Cross-Stitching Using Little Thread". Therese Biedl, Joseph D. Horton, A. L pez-Ortiz. Proceedings of the *17th Canadian Conference on Computational Geometry*, 2005.
116. "Sharper Upper and Lower Bounds for an Approximation Scheme for CONSENSUS-PATTERN". Broňa Brejov, Daniel G. Brown, Ian M. Harrower, A. L pez-Ortiz, Toms Vinař. Proceedings of the *16th Annual Symposium on Combinatorial Pattern Matching (CPM)*, 2005. Lecture Notes in Computer Science, 3537, Springer, pp. 1-10, 2005.
117. "Bandwidth reduction for video-on-demand broadcasting using secondary content insertion". Alexander Golynski, A. Lopez-Ortiz, Guillaume Poirier, Claude-Guy Quimper. Proceedings of the *12th Annual Multimedia Computing and Networking (MMCN '05)*, pp. 167-175, 2005.
118. "Efficient View Point Selection for Silhouettes of Convex Polyhedra". Therese Biedl, Masud Hasan, A. L pez-Ortiz. Proceedings of the *29th International Symposium on Mathematical Foundations of Computer Science (MFCS)*, Lecture Notes in Computer Science, 3153, Springer, pp. 735-747, 2004.
119. "Improved Algorithms for the Global Cardinality Constraint", Claude-Guy Quimper, A. Lopez-Ortiz, Peter van Beek, and Alexander Golynski. Proceedings of the *10th International Conference on Principles and Practice of Constraint Programming (CP)*, Lecture Notes in Computer Science, 3258, Springer, pp.542-556, 2004.
120. "Finding Frequent Items in Sliding Windows with Multinomially-Distributed Item Frequencies", Lukasz Golab, David DeHaan, A. L pez-Ortiz and Erik Demaine, Proceedings of the *16th International Conference on Scientific and Statistical Database Management (SSDBM)*, IEEE Computer Society, pp. 425-426, 2004.
121. "The Cost of Cache-Oblivious Searching", Michael A. Bender, Gerth St lting Brodal, Rolf Fagerberg, Dongdong Ge, Simai He, Haodong Hu, John Iacono and A. L pez-Ortiz. Proceedings of the *Foundations of Computer Science (FOCS)*, pp. 271-282, 2003.
122. "On the Number of Distributed Measurement Points for Network Tomography", Joseph D. Horton, A. L pez-Ortiz. Proceedings of the *ACM Internet Measurements Conference (IMC)*, pp. 204-209, 2003.
123. "Identifying Frequent Items in Sliding Windows over On-Line Packet Streams", Lukasz Golab, David DeHaan, Erik D. Demaine, A. L pez-Ortiz, and J. Ian Munro. Proceedings of the *ACM Internet Measurements Conference (IMC)*, pp. 173-178, 2003.
124. "Optimal Dynamic Video-On-Demand using Adaptive Broadcasting". Therese Biedl, Erik D. Demaine, Alexander Golynski, Joseph D. Horton, A. L pez-Ortiz. Guillaume Poirier and Claude-Guy Quimper. Proceedings of the *European Symposium on Algorithms (ESA)*, Lecture Notes in Computer Science 2832, Springer, pp. 90-101, 2003.
125. "An Efficient Bound Consistency Algorithm for the Global Cardinality Constraint Problem". Claude-Guy. Quimper, Peter van Beek, A. L pez-Ortiz, Alexander Golynski, and Samed B. Sadjad. Proceedings of the *Constraint Programming (CP)*, Lecture Notes in Computer Science 2833, Springer, pp. 600-614, 2003.
126. "A Fast and Simple Algorithm for Bounds Consistence of the Alldifferent Constraint". A. L pez-Ortiz, Claude-Guy Quimper, John Tromp and Peter van Beek. Proceedings of the *Eighteenth International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 245-250, 2003.
127. "Curves of Width One and the River Shore Problem". Timothy Chan, Alexander Golynski and A. L pez-Ortiz. Proceedings of the *Canadian Conference on Computational Geometry*, pp. 73-75, 2003.
128. "Finding Hidden Independent Sets in Interval Graphs". Therese Biedl, Brona Brejov, Erik D. Demaine, Angele M. Hamel, A. L pez-Ortiz and Tomas Vinař. Proceedings of the *9th Annual International Computing and Combinatorics Conference (COCOON)*, Lecture Notes in Computer Science 2697, Springer, pp. 182-191, 2003.
129. "Curves of Minimum Width and the Asteroid Mapping Problem". Timothy Chan, Alexander Golynski, A. L pez-Ortiz and Claude-Guy Quimper. *12th Annual Video Review of Computational Geometry*, Proceedings of the *19th Annual ACM Symposium on Computational Geometry (SoCG)*, pp. 372-373, 2003.
130. "Frequency Estimation of Internet Packet Streams with Limited Space". Erik D. Demaine, A. L pez-Ortiz, and J. Ian Munro. Proceedings of the *European Symposium on Algorithms (ESA)*, 2002, Lecture Notes in Computer Science 2461, Springer, pp. 348-360, 2002.
131. "Drawing $K_{2,n}$: A Lower Bound". Therese Biedl, Timothy Chan, A. L pez-Ortiz. Proceedings of the *Canadian Conference on Computational Geometry*, pp. 146-148, 2002. (Also in *Information Processing Letters*).
132. "Searching for the Centre of a Circle". Therese Biedl, J.D. Horton, A. L pez-Ortiz, M. Hasan, T. Vinar. Proceedings of the *Canadian Conference on Computational Geometry*, pp. 137-141, 2002.
133. "Robot Localization without Depth Perception". Erik D. Demaine, A. L pez-Ortiz and J. Ian Munro. Proceedings of the *Scandinavian Workshop on Algorithm Theory, (SWAT)*, Lecture Notes in Computer Science 2368, pp. 249-259, 2002.
134. "On-line Parallel Heuristics and Robot Searching under the Competitive Framework". A. L pez-Ortiz and Sven Schuierer. Proceedings of the *Scandinavian Workshop on Algorithm Theory, (SWAT)*, 2002. Lecture Notes in Computer Science 2368, pp. 260-269, 2002.
135. "A Linear Lower Bound on Index Size for Text Retrieval". Erik D. Demaine and A. L pez-Ortiz. Proceedings of the *12th Symposium on Discrete Algorithms (SODA'2001)*, pp. 289-294, 2001.
136. "On Universally Easy Classes for NP-complete Problems". Erik D. Demaine, A. L pez-Ortiz and J. Ian Munro. Proceedings of the *12th Symposium on Discrete Algorithms (SODA'2001)*, pp. 910-911, 2001. (Also in *Theoretical Computer Science*).

137. "Experiments on Adaptive Set Intersections for Text Retrieval Systems". Erik D. Demaine, A. López-Ortiz and J. Ian Munro. Proceedings of the *3rd Workshop on Algorithm Engineering and Experiments (ALENEX)*, Lecture Notes in Computer Science 2153, Springer, pp. 91-104, 2001.
138. "Parallel Searching on a Lattice". A. López-Ortiz and G. Sweet. Proceedings of the *13th Canadian Conference on Computational Geometry*, pp.125-128, 2001.
139. "Online Routing in Convex Subdivisions". Prosenjit Bose, Andrej Brodnik, Svante Carlsson, Erik D. Demaine, Rudolf Fleischer, A. López-Ortiz, Pat Morin, and J. Ian Munro. Proceedings of the *11th Annual International Symposium on Algorithms and Computation (ISAAC 2000)*, Lecture Notes in Computer Science, 1969, Springer, 2000. (Also in *International Journal of Computational Geometry and Applications*).
140. "A New Lower Bound for Kernel Searching". Peter Anderson, A. López-Ortiz. Proceedings of the *12th Canadian Conference on Computational Geometry*, 2000.
141. "Adaptive Set Intersections, Unions and Differences". Erik D. Demaine, A. López-Ortiz, and J. Ian Munro. Proceedings of the *11th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 743-752, 2000.
142. "Position Independent Street Searching". Christoph A. Bröcker, A. López-Ortiz, Proceedings of the *Workshop on Algorithms and Data Structures (WADS)*, Lecture Notes in Computer Science, 1663, Springer, pp. 241-252, 1999.
143. "The Exact Cost of Exploring Streets with a CAB Strategy". A. López-Ortiz and Sven Schuierer. Proceedings of the *10th Canadian Conference on Computational Geometry*, 1998.
144. "The Ultimate Strategy to Search on m-Rays?" A. López-Ortiz and Sven Schuierer. Extended abstract Proceedings of the *4th Annual International Computing and Combinatorics Conference, (COCOON'98)*, Lecture Notes in Computer Science 1449, Springer, pp. 75-84, 1998. (Also in *Theoretical Computer Science*).
145. "Position-Independent Near Optimal Searching and On-line Recognition in Star Polygons". A. López-Ortiz and Sven Schuierer. Proceedings of the *Workshop on Algorithms and Data Structures (WADS)*, Lecture Notes in Computer Science 1272, Springer, 1997.
146. "Position-Independent Near Optimal Searching and On-line Recognition in Star Polygons". A. López-Ortiz and Sven Schuierer. Communication Proceedings of the *13th ACM Symposium on Computational Geometry (SoCG)*, pp. 445-447, 1997.
147. "Generalized Streets Revisited", A. López-Ortiz and Sven Schuierer. Proceedings of the *4th European Symposium on Algorithms (ESA)*, Lecture Notes in Computer Science 1136, Springer, pp. 546-558. 1996.
148. "Walking Streets Faster". A. López-Ortiz and Sven Schuierer. Proceedings of the *5th Scandinavian Workshop on Algorithms and Theory (SWAT)*, Lecture Notes in Computer Science 1097, Springer, pp. 345-356, 1996.
149. "A Multi-collaborative Push-Caching Scheme for the WWW". A. López-Ortiz and Daniel Morales-Germán. Poster Proceedings of the *5th International World Wide Web Conference* (approx. 60 talks, and 20 poster presentations), 1996.
150. "Going Home Through an Unknown Street". A. López-Ortiz and Sven Schuierer. Proceedings of the *4th Workshop in Algorithms and Data Structures (WADS)*, in Lecture Notes in Computer Science 955, Springer, pp. 135-146, 1995.
151. "Simple, Efficient and Robust Strategies to Traverse a Street", A. López-Ortiz and Sven Schuierer. Proceedings of the *7th Canadian Conference on Computational Geometry*, 1995.

Expository Papers

152. "Online Bin Packing with Advice". Joan Boyar, Shahin Kamali, A. López-Ortiz and Kim S. Larsen. To appear in *1st Workshop on Trends in Online Algorithms (TOLA)*, 2014.
153. "The Within-Strip Discrete Unit Disk Cover Problem". Robert Fraser and A. Lopez-Ortiz. *Computational Geometry: Young Researchers' Forum*, 2012.
154. "On Developing New Models, with Paging as a Case Study". Reza Dorrigiv and A. López-Ortiz. *SIGACT News*, Vol. 40, No. 4, pp. 98-123, December 2009.
155. "A Survey of Performance Measures for On-line Algorithms". Reza Dorrigiv and A. López-Ortiz. Invited survey, *SIGACT News*, Vol. 36, No. 3, September 2005.
156. "Algorithmic Foundations of the Internet". A. López-Ortiz. Invited survey, *SIGACT News*, Vol. 36, No. 2, June 2005.
157. Claude-Guy Quimper, Alejandro López-Ortiz: From Linear Relaxations to Global Constraint Propagation. CP 2005: 867
158. "Linear Pattern Matching of Repeated Substrings". A. López-Ortiz. *SIGACT News*. Vol. 25, No. 3, September 1994.
159. "Perl: A string processing language" (in Spanish). A. López-Ortiz and D. Morales-Germán. *Soluciones Avanzadas*, November, 1996.
160. "SGML: What is written on the blank spaces" (in Spanish). A. López-Ortiz and D. Morales-Germán. *Soluciones Avanzadas*, December, 1995.
161. "Computer Viruses" (in Spanish). A. López-Ortiz and D. Morales-Germán. *Newsletter of the Mexican Mathematical Society*, 1989.

Serial contributions (in Spanish) to the monthly column **Weaving the Net** written jointly with Daniel M. German and Claudia Iturriaga--for *Soluciones Avanzadas*, an Information Technologies and Business Strategy trade journal (ISSN 0188-8048):

162. Internet por la Oficina Empieza. A. López-Ortiz and Daniel M. Germán. January 1996.
163. Es la red lo suficientemente segura? A. López-Ortiz and Daniel M. Germán. February 1996.
164. Criptografía de Llave Pública. A. López-Ortiz and Daniel M. Germán. March 1996.

165. SET: La Tarjeta de Credito Electrónica. A. López-Ortiz and Daniel M. Germán. April 1996.
166. El Factor Humano. A. López-Ortiz and Daniel M. Germán. May 1996.
167. Instalando un Servidor de Web. A. López-Ortiz and Daniel M. Germán. May 1996.
168. Java: Promesa o Realidad? A. López-Ortiz and Daniel M. Germán. June 1996.
169. Conexiones a Web con Cache. A. López-Ortiz and Daniel M. Germán. July 1996.
170. Poniendo la crema sobre la z. A. López-Ortiz and Daniel M. Germán. August 1996.
171. La extra, la extra. A. López-Ortiz and Daniel M. Germán. September 1996.
172. Censura o Moderación en la Internet. A. López-Ortiz and Claudia Iturriaga. November 1996.
173. Apocalipsis Informático. A. López-Ortiz and Claudia Iturriaga. December 1996.
174. "Frequently Asked Questions (FAQ) about Theoretical Computer Science". A. López-Ortiz. An introductory text for theoretical computer science. Usenet/Web document. 7 pages, 1998.

Workshop Publications

175. "Smallest and Some New Equiprojective Polyhedra", Masud Hasan, Md. Monoar Hossain, Sabrina Nusrat, A. López-Ortiz. Proceedings of the 11th *International Conference on Computer and Information Technology*, pp. 459-464. 2008.
176. "Frequent Items in Sliding Windows". David DeHaan, Erik D. Demaine, Lukasz Golab, A. López-Ortiz, and J. Ian Munro. *DIMACS Workshop on Streaming Data Analysis*. DIMACS Center, Rutgers University, March 24 - 26, 2003.

Technical Reports

177. "List Colouring Big Graphs On-Line", Martin Derka, A. López-Ortiz, Daniela Maftuleac. *CoRR abs 1502.0255*, (2015).
178. "Algorithms in the Ultra-Wide Word Model", Arash Farzan, A. López-Ortiz, Patrick K. Nicholson, Alejandro Salinger. *CoRR abs 1411.7359* (2014).
179. "Kernelization Algorithms for Packing Problems Allowing Overlaps", Henning Fernau, A. López-Ortiz, and Jazmín Romero. *CoRR abs 1411.6915* (2014)
180. "Local Policies for Efficiently Patrolling a Triangulated Region by a Robot Swarm", Daniela Maftuleac, Seoung Kyou Lee, Sandor P. Fekete, Aditya Kumar Akash, A. López-Ortiz, and James McLurkin. *CoRR abs 1410.2295* (2014).
181. "Optimal Strategies for Search and Rescue Operations with Robot Swarms", A. López-Ortiz, and Daniela Maftuleac, *CoRR abs 1410.1077* (2014).
182. "Efficient Online Strategies for Renting Servers in the Cloud", Shahin Kamali, and A. López-Ortiz: *CoRR abs 1408.4156* (2014).
183. "An All-around Near ptimal Solution for the Classic Bin Packing Problem", Shahin Kamali, and A. López-Ortiz: *CoRR abs 1404.4526* (2014).
184. "On the List Update Problem with Advice", Joan Boyar, Shahin Kamali, Kim S. Larsen, and A. López-Ortiz: *CoRR abs 1311.7357* (2013).
185. "On Advice Complexity of the k-server Problem under Sparse Metrics", Sushmita Gupta, Shahin Kamali, and A. López-Ortiz: *CoRR abs 1305.2108* (2013).
186. "Online Bin Packing with Advice", Joan Boyar, Shahin Kamali, Kim S. Larsen, and A. López-Ortiz: *CoRR abs 1212.4016* (2012).
187. "Broadcasting in Conflict-Aware Multi-Channel Networks", Francisco Claude, Reza Dorrigiv, Shahin Kamali, A. López-Ortiz, Pawel Pralat, Jazmín Romero, Alejandro Salinger and Diego Seco. *Technical Report CS-2012-22*, School of Computer Science, University of Waterloo, 2012.
188. "Algorithms in the Ultra-Wide Word Model", Arash Farzan, A. López-Ortiz, Patrick K. Nicholson, and Alejandro Salinger. *Technical Report CS-2012-21*, School of Computer Science, University of Waterloo, 2012.
189. "On the Sublinear Processor Gap for Multi-Core Architectures", A. López-Ortiz and Alejandro Salinger. *Technical Report CS-2012-20*, School of Computer Science, University of Waterloo, 2012.
190. "On Minimum- and Maximum-Weight Minimum Spanning Trees with Neighborhoods", Reza Dorrigiv, Robert Fraser, Meng He, Shahin Kamali, Akitoshi Kawamura, A. López-Ortiz and Diego Seco. *Technical Report CS-2012-14* , School of Computer Science, University of Waterloo, 2012.
191. "Minimizing Cache Usage in Paging", A. López-Ortiz, Alejandro Salinger. *Technical Report CS-2012-15* , School of Computer Science, University of Waterloo, 2012.
192. "FIFO Queueing Policies for Packets with Heterogeneous Processing", Kirill Kogan, A. López-Ortiz, Sergey I. Nikolenko, Alexander Sirotkin, and Denis Tugaryov. *CoRR abs 1204.5443* (2012).
193. "Large Profits or Fast Gains: A Dilemma in Maximizing Throughput with Applications to Network Processors". Kirill Kogan, A. López-Ortiz, Gabriel Scalosub, and Michael Segal. *CoRR abs 1202.5755* (2012).
194. "Paging for Multicore Processors", A. López-Ortiz, Alejandro Salinger. *Technical Report CS-2011-12* , School of Computer Science, University of Waterloo, 2011.
195. "REWIRE: an optimization-based framework for data center network design". Andrew R. Curtis, Tommy Carpenter, Mustafa Elsheikh, A. López-Ortiz and S. Keshav. *Technical Report CS-2011-21*, School of Computer Science, University of Waterloo, 2011.

196. "Orthogonal Query Expansion". Margareta Ackerman, David Loker, and A. López-Ortiz. *CoRR abs* 1109.0530 (2011).
197. "Multi-target Ray Searching Problems". Spyros Angelopoulos, A. López-Ortiz and Konstantinos Panagiotou. *Technical Report* CS-2011-07, School of Computer Science, University of Waterloo, 2011.
198. "Orthogonal Query Expansion". Margareta Ackerman, David Loker, and A. López-Ortiz. *Technical Report* CS-2011-23, School of Computer Science, University of Waterloo, 2011.
199. Paging for Multicore (CMP) Caches", A. López-Ortiz Alejandro Salinger. *Technical Report* CS-2010-15, School of Computer Science, University of Waterloo, 2010.
200. "Reducing Waste in Data Center Network Upgrades". Andrew R. Curtis, S. Keshav, and A. Lopez-Ortiz. *Technical Report*, CS-2010-08, School of Computer Science, University of Waterloo, 2010.
201. "LEGUP: Using Heterogeneity to Reduce the Cost of Data Center Network Upgrades". Andrew R. Curtis, S. Keshav and A. Lopez-Ortiz. *Technical Report*, CS-2010-12, School of Computer Science, University of Waterloo, 2010.
202. "Some New Equiprojective Polyhedra", Masud Hasan, Md. Monoar Hossain, A. López-Ortiz, Sabrina Nusrat, Saad Altaful Quader, Nabila Rahman.. *CoRR abs* 1009.2252 (2010).
203. "Capacity Provisioning of Valiant Load-Balanced Networks", Andrew Curtis and A. López-Ortiz. *Technical Report*, CS-2009-02, School of Computer Science, University of Waterloo, 2009.
204. "Adaptive two-dimensional string matching for protein contact maps". Robert Fraser and A. López-Ortiz. *Technical Report*, CS-2008-14, School of Computer Science, University of Waterloo, 2008.
205. "The Cooperative Ratio of On-line Algorithms". Reza Dorrigiv and Alejandro López-Ortiz. *Technical Report*, CS-2007-39, School of Computer Science, University of Waterloo, 2007.
206. "Experimental Evaluation of List Update Algorithms for Data Compression". Reza Dorrigiv, Alejandro López-Ortiz, and J. Ian Munro. *Technical Report*, CS-2007-38, School of Computer Science, University of Waterloo, 2007.
207. "List Update with Locality of Reference: MTF Outperforms All Other Algorithms". Spyros Angelopoulos, Reza Dorrigiv, and Alejandro López-Ortiz. *Technical Report*, CS-2006-46, School of Computer Science, University of Waterloo, 2006.
208. "URL-Enhanced Adaptive Page-Refresh Models". Robert Warren, Dana Wilkinson, Alejandro López-Ortiz. *Technical Report*, CS-2005-16, School of Computer Science, University of Waterloo, 2005.
209. "Finding Frequent Items in Sliding Windows with Multinomially-Distributed Item Frequencies". Lukasz Golab, David DeHaan, Alejandro Lopez-Ortiz, and Erik D. Demaine, *Technical Report*, CS-2004-06, School of Computer Science, University of Waterloo, (updated version of CS-2003-06), 2004.
210. "An Efficient Bound Consistency Algorithm for the Global Cardinality Constraint Problem". Claude-Guy Quimper, Peter van Beek, A. López-Ortiz, Alexander Golynski, and Samed B. Sadjad. *Technical Report*, CS-2003-10, School of Computer Science, University of Waterloo, 2003.
211. "Exploiting Statistics of Web Traces to Improve Caching Algorithms". Alexander Golynski, A. López-Ortiz and Ray Sweidan. *Technical Report*, CS-2003-34, School of Computer Science, University of Waterloo, 2003.
212. "A fast and simple algorithm for bounds consistency of the alldifferent constraint problem" Alejandro Lopez-Ortiz, Claude-Guy Quimper, John Tromp and Peter van Beek. *Technical Report*, CS-2003-05, School of Computer Science, University of Waterloo, 2003.
213. "Towards Identifying Frequent Items in Sliding Windows". David DeHaan, Erik D. Demaine, Lukasz Golab, Alejandro López-Ortiz, and J. Ian Munro. *Technical Report*, CS-2003-06, School of Computer Science, University of Waterloo, 2003.
214. "Frequency Estimation of Internet Packet Streams with Limited Space". Erik D. Demaine, A. López-Ortiz, and J. Ian Munro. Massachusetts Institute of Technology, August 2002.
215. "Finding Hidden Independent Sets in Interval Graphs". Therese Biedl, Brona Brejova, Erik D. Demaine, Angele M. Hamel, A. López-Ortiz and Tomas Vinar. *Technical Report*, CS-2001-26, Department of Computer Science, University of Waterloo, December 2001.
216. "High Arity Nodes, Routing and Internet Tomography". J.D. Horton and A. López-Ortiz. *Technical Report*, TR01-143, Faculty of Computer Science, University of New Brunswick, July 2001.
217. "An $\Omega(n \log^2 n / \log \log n)$ lower bound for Algorithm W in a synchronous fail-stop (no restart) PRAM". A. López-Ortiz. Research Note. *Technical Report* TR00-128, Faculty of Computer Science, University of New Brunswick, January 2000.
218. "Position Independent Street Searching". Christopher A. Hipke, and A López-Ortiz. *Technical report* TR98-122, Faculty of Computer Science, University of New Brunswick, 1998.
219. "Adaptive Set Intersections". Erik D. Demaine, A. López-Ortiz, and J. Ian Munro. *Technical Report* TR 98-120, Faculty of Computer Science, University of New Brunswick, 1998.
220. "The Exact Cost of Exploring Streets with a CAB". A. López-Ortiz and Sven Schuierer. *Technical report* TR98-119, Faculty of Computer Science, University of New Brunswick, 1998.
221. "The Ultimate Strategy to Search on m-Rays?" A. López-Ortiz and Sven Schuierer. *Technical report* TR98-118, Faculty of Computer Science, University of New Brunswick, 1998.
222. "Going Home Through an Unknown Street". Ch. Icking, A. López-Ortiz, Sven Schuierer and I. Semrau. *Technical Report* 228, Department of Computer Science, FernUniversität Hagen, Germany, 1998. (A collection of improvements on [20] and the previous technical report of the same name).

223. "On-line Target Searching on Bounded and Unbounded Domains". A López-Ortiz. *Technical Report CS-96-25*, Department of Computer Science, University of Waterloo, 1996.
224. "A Multicollaborative Push-Caching HTTP Protocol for the WWW", A. Lopez-Ortiz and Daniel M. German. *Technical Report CS-96-12*, Dept. of Computer Science, University of Waterloo, 1996.
225. "Walking Streets Faster". A. Lopez-Ortiz and Sven Schuierer. *Technical Report CS-95-20*, Department of Computer Science, University of Waterloo, 1995.
226. "Going Home Through an Unknown Street" A. Lopez-Ortiz and Sven Schuierer. *Technical Report #445*, December 1994, Department of Computer Science, The University of Western Ontario. (Improved results appear on the paper of the same name in the Refereed Publications section above).
227. "Spanish Morphology for Automated Verb Declination". A López-Ortiz and D. Morales-Germán. *Technical Report CS-96-12*, Department of Computer Science, University of Waterloo, 1996.
228. "Probabilistic Complexity Classes", A. López-Ortiz. *Technical Report CS-91-11*. Department of Computer Science. University of Waterloo, 1991. Also in *Research Abstracts*, Structures in Complexity Theory, 1992.
229. "MP Particle Movement". José Luis Abreu, Martha Oliveró, María Garza and A. López-Ortiz. *Technical Report 72*. Institute of Applied Mathematics and Systems. Universidad Nacional Autónoma de México, 1987.

Articles in Preparation

230. "Text Editing". Erik D. Demaine, T. Hagerup and A. López-Ortiz.
231. "New Bounds for Recognition of Star-Shaped Polygons". J.D. Horton, A. López-Ortiz and Sven Schuierer.
232. "On-line searching in General Polygons with Holes." P. Bose, A. López-Ortiz and Sven Schuierer.
233. "Adaptive Algorithms for Boolean Query Evaluation in Text Retrieval Systems". Erik D. Demaine, A. López-Ortiz and J. Ian Munro.

Other Publications

234. "Frequently Asked Questions in Mathematics". An introductory text for mathematics. Usenet/Web document. 86 pages. 1998.
235. "Computer Chess, Past and Present", An overview of the state of computer chess. University of Waterloo, *Imprint*, 1993.
236. "Frequently Asked Questions about Coffee and Caffeine". An introductory text to the chemistry of coffee and caffeine. 40 pages. 1998.

Training of Highly Qualified Personnel and Graduate Student Supervision

Doctoral Students Supervised

1. Shahin Kamali, PhD September 2014. Thesis title: Alternative Approaches for Analysis of Bin Packing and List Update Problems.
2. Mehdi Mirzazadeh. PhD May 2014. Thesis title: Efficient Evaluation of Set Expressions.
3. Alejandro Salinger. PhD April 2013. Thesis title: Models for Parallel Computation in Multi-Core, Heterogeneous, and Ultra Wide-Word Architectures.
4. Robert Fraser, PhD December 2012. Thesis title: Algorithms for Geometric Covering and Piercing Problems.
5. Andrew Curtis, PhD April 2012. Co-supervision with S. Keshav. Thesis title: Reducing the Cost of Operating a Datacenter Network.
6. Reza Dorrigiv. PhD February 2010. Thesis title: Alternative Measures for the Analysis of Online Algorithms. Winner of the **Outstanding Achievement in Doctoral Studies Award**.
7. Adam Milstein, PhD, March 2008. Co-supervision with Dale Schuurmans. Thesis title: Improved Particle Filter Based Localization and Mapping Techniques.
8. Claude Guy-Quimper. PhD, July 2006. Thesis title: Efficient Propagators for Global Constraints. Winner of inaugural **Association for Constraint Programming Best Doctoral Research Award**.
9. Masud Hasan. PhD, September 2005. Co-supervision with Therese Biedl. Thesis title: Reconstruction and Visualization of Polyhedra using projections.

Current Graduate Students under Supervision

1. Jazmín Romero, PhD Student 2013-to date.
2. Alexandre Daigle, MMath Student 2014-to date.

Awards and National Grants to Students for work performed under my direction or supervision

1. Shahin Kamali. NSERC Postdoctoral Fellowship, 2015-2017.
2. Roberto Konow. Emerging Leaders in the Americas Program (ELAP) Scholarship, 2012.

3. Yosvanys Aponte. Emerging Leaders in the Americas Program (ELAP) Scholarship, 2012.
4. Shahin Kamali. NSERC Michael Smith Foreign Study Scholarship, 2012.
5. Pedram Ghodsnia and Kamran Tirdad. Best student paper award. 18th International Symposium on String Processing and Information Retrieval (SPIRE), 2011.
6. Reza Dorrigiv. PhD. Outstanding Achievement in Doctoral Studies Award, 2010.
7. Reza Dorrigiv. NSERC Postdoctoral Fellowship, 2011-2013.
8. Claude Guy-Quimper. PhD. Inaugural Association for Constraint Programming Best Doctoral Research Award, 2006.
9. Claude Guy-Quimper. NSERC Postdoctoral Fellowship, 2008-2010.
10. Claude Guy-Quimper. NSERC Industrial R&D Postdoctoral Fellowship 2007.
11. Barbara Macdonald. Google Anita Borg Memorial Scholarship, 2008.
12. Tyler Lu, NSERC URA. Honorable mention in CRA undergrad award, 2006.

Postdoctoral fellows

1. Shahin Kamali, October 2014-August 2015.
2. Alejandro Salinger, May 2013-June 2013.
3. Susana Ladra González, March 2012-April 2012.
4. Kirill Kogan February 2012-January 2013.
5. Diego Seco, September 2010-April 2012.
6. Reza Dorrigiv, March 2010-September 2011.
7. Masud Hasan, January 2010-July 2010, visiting research professor.
8. Diego Arroyuelo Billiardi (joint with Ian Munro), July 2008-April 2009.
9. Stephane Durocher (joint with Ian Munro), July 2008-June 2009.
10. Stephane Durocher (joint with Therese Biedl and Timothy Chan), September 2007-June 2008.
11. Spyros Angelopoulos, September-December 2006.

Visiting Scholars

1. Jesper Sindahl Nielsen, October 2013-April 2014.
2. Roberto Konow. August 2012-December 2012.
3. Marc Renault, July 2012.
4. Yosvanys Aponte. January 2012-June 2012.
5. Elad Cohen, 2009-2010.
6. Martin R. Ehmsen, September 2007-December 2007.

Master Students Supervised

1. Ying Cathy Liu, Geometric On-line Ray Searching Under Probability of Placement Scenarios, September 2010.
2. Tony Abou-Assaleh, thesis reader and co-supervisor (with Dr. Nick Cercone), December 2001.
3. Bin Fu, A New Prefetching Interface for Newsgroups, June 2004 (UNB).
4. Xin Ma. Navigation and Searching on the Web Using a Visual System. December 2001.
5. Ooi Chee Wai. A Protocol for Online Discussion and Collaboration, January 2001.
6. Sharmila Mehendale. A study or Readability and Succinctness in Programming Languages, October, 2000.
7. Daoya Gong. Transaction Process Modeling and Implementation for 3-tiered Web-based Database Systems, April 2000.

Thesis Committee Membership

External Reader, PhD.

Andrei Negoescu, Goethe University Frankfurt, Germany, 2013. Pooya Davoodi, Aarhus University, Denmark, 2011. Susana Ladra, University of Coruña, 2011. Thomas Kamphans, University of Bonn, 2006. S. Srinivasa Rao, Institute of Mathematical Sciences, University of Madras, 2002.

PhD Thesis Committee. Lukasz Golab (2006), Michael Spriggs (2006), Tarique Islam (2007), Reaz Ahmed (2007), Peyman Afshani (2008), Aaditeshwar Seth (2008), Hamid Zarrabi-Zadeh (2008), Dalia Krieger (2008), Sonia Waharte (2008), Mustaq Ahmed (2009), Arash Farzan (2009), Tyrel Russell (2010), Maxwell Young (2011), Margaretta Ackerman (2012), Jin Meng (2013), Francisco Claude (2013), Dave Loker (2013), Patrick Nicholson (2013), Andrew Kane (2014).

PhD Second Stage Reader (excluding completed PhDs, listed above): Zia Rahman (2006), Mark Petrick (2006), Name withheld (blind) (2011), Shahin Kamali (2012).

MMath Reader: Meng He (2002), Ray Sweidan (2003), Fuping Huang (2003), Mohammad Ali Safari (2003), Tianshu Li (2003), Joe Capka (2004), Narad Rampersad (2004), Shabnam Aziza (2004), Eric Chen (2004), Wojciech Golab (2004), Mustaq Ahmed (2004), Yuhui Wen (2004), Arash Farzan (2004), Lars Hellsten (2004), Abdullah-Al Mahmood (2005), Neeraj Dumir (2005), Cristian Gaspar (2005), Huayue Wu (2006), Aleh Veraskouski (2007), Jesse McCrosky (2007), Zia Rahman (2007), Saeed Hassanpour (2007), Jaffer Gardezi (2008), Steve Bahun (2008), Adam Bains (2009), Muntasir Raihan Rahman (2010), Lukasz Cwik (2010), Teresa Luu (2010), Terry Anderson (2011), Simina Brânzei (2011), Vinayak Pathak (2011), Kamran Tirdad (2011), Nik Shkrob (2011), Dave Steiner (2012), Bryan Wilkinson (2012), Gelin Zhou (2012), Nan Hu (2013), Hicham Helzein (2014), Youcef Tebbal (2015), plus reader for 5 masters thesis at UNB, 1998-2000.

Honours Thesis Supervised

Peyman Imani. Web-based Disaster Recovery Planning, 2000.
Willem van Heiningen. Dynamic Gathering of Network Connectivity Information, 2000.
Peter Anderson. Kolmogorov Complexity of Lottery Results, 2000.
Haiyun Henry Wang. Java Search Library, 2000.
Wan Theng Lai. Interface for Java Search Library, 2000.
Ooi, Chee Wang. A Dynamic Robot Exclusion Protocol. 1998.
Vincent Lim. Push-Cache Support on the Apache Server, 1999.
Chris Dedam. AML: An Annotated Markup Language. 1999.
Janice McConnell. A comparison of Query Language Proposals for XML, 1999.
Craig Ryan. An introduction to lexicographical search trees, 1999.

Technical Reports Supervised

Jason Thompson. Caching Services Using the Microsoft Proxy Server. 1999.
Bruce MacFarlane. Comparisons of Point Feature Labeling Algorithms. 1999.

NSERC Undergraduate Research Assistantships

Robert Suderman GPU and Multi-core architectures. Spring 2011.
Barbara Macdonald. Experiments in algorithms for data compression. Spring 2008.
Tyler Lu, NSERC URA, Summer 2006, and continuing joint work thereafter (honorable mention in CRA undergrad award).

Undergraduate Research Assistantships

Corey Sinnamon. Variance and time estimation of sampling and caching effects on modern architectures. Spring 2013.
Da Hilary Huo. Data Structures for SSD external memory. Spring 2013.
Shannon Broekhoven. Variance and time estimation of sampling and caching effects on modern architectures. Spring 2013.
Hangrui (Henry) Shi. Computational Modeling of Time Dependent. Fall 2012.
Yue (Joan) Qiu. Deflationary effects of random flows in economic networks. Winter 2012.
Selim Tawfik. Motion planning and geometric searching. Spring 2011.
Barbara Macdonald. Experiments in algorithms for data compression. Winter 2008.
William Finlay. The oCo programming language. Winter 2008.
Margareta Ackerman, Implementation of Schriber's k-link algorithm, Winter 2006.
Tyler Lu, Interpolation Search Techniques, Summer 2005.
Tyler Lu, Adaptive Intersection Experiments, Winter 2005.
Mona Kabhazan, Robocup, Fall 2003.
Lei Chu, Robocup, Spring 2003.
Mona Kabhazan, Robocup, Spring 2003.
Stephen Corkey, Crash: computer game simulation, Winter 2003.
Dale Nesbitt, Subsumption and the Modification Method for the Marmoset automated theorem prover., Winter 2002.
Erick Moreno, Subsumption and the Modification Method for the Marmoset automated theorem prover., Winter 2002.
Samson Chi. Subsumption and the Modification Method for the Marmoset automated theorem prover., Winter 2002.
Michael Currie. An interactive command line shell for Linux. Winter 2002.
Cathy Lam, Soccer simulations, Spring 2002.
Lei Chu, Soccer simulations, Spring 2002.

Don Brin, Spring 2002.

Tina Huizhong Li, Data Structures for Editors, Spring 2002.

Honours and Awards

Awards, Medals and Distinctions

1. **Outstanding Performance Award**, Faculty of Mathematics, University of Waterloo, 2011.
2. **Cheriton Faculty Fellow**. School of Computer Science, University of Waterloo, 2010-2013.
3. **ACM Senior Member**. Association for Computing Machinery, 2010.
4. **UNB Merit Award**. Awarded annually to 12 faculty members from both UNB campuses, who have been assessed as particularly meritorious. University of New Brunswick, 1999-2000 (\$3,500).
5. **Student Leadership Award**. Awarded jointly by the Federation of Students and the Graduate Student Association of the University of Waterloo, 1993.
6. Selected for the **Student Achievement** recognition by the Board of Governors, University of Waterloo in 1993 and 1994.
7. **Gabino Barreda Medal**, awarded to the highest GPA (10 out of 10) among the 1988 class at the National University of México (Universidad Nacional Autónoma de México), 1989.
8. **“Best Student of Mexico”** Medal awarded by “El Nacional” journal. Mexico, 1989.

Research Grants

9. **NSERC Discovery Grant**. “Online algorithms, paging and multicore architectures (CMP)”. \$42,000 per annum. University of Waterloo, 2012-2016.
10. **France-Canada Research Fund**. “Measuring the impact of knowing the future: Online algorithms with advice”. \$15,000 for June-2014-May 2016.
11. **HP Innovate**. “Sustainable Upgrades of Legacy Data Center Networks: Reduce, Reuse, Recycle”, \$40,000 per annum for one year. Co-applicants: S. Keshav (Waterloo), 2011-2012.
12. **NSERC Engage Grant**. “Theoretical models for parallel computation in CMP and GPU architectures: algorithm analysis&design, cache efficiency and performance prediction”. Industrial partner: AMD. \$21,970 for March-September, 2011.
13. **HP Innovate**. “Sustainable Upgrades of Legacy Data Center Networks: Reduce, Reuse, Recycle”, \$130,000 per annum for one year. Co-applicants: S. Keshav (Waterloo), 2010-2011.
14. **NSERC Strategic Project Grant**. “Optimal Data Structures for Organization and Retrieval of Spatial Data”. \$139,875 per annum for three years from NSERC plus contributions in kind of \$61,100 in year 1, and \$21,100 in years 2 and 3 from CARIS (industrial partner). University of Waterloo, 2007-2009. PI: A. López-Ortiz, Co-applicants: J.Ian Munro (Waterloo), Bradford G. Nickerson (UNB), Norbert R. Zeh (Dalhousie). International Collaborators: Lars Arge (Aarhus, MADALGO Center).
15. **NSERC Discovery Grant**. “Efficient Algorithms for Massive Data Sets”. \$29,000 per annum. University of Waterloo, 2007-2012.
16. **STG ORDCF**. "Caching Strategies for Multi-Core Architectures". Sun/Nortel/Government of Ontario, \$7,500 per annum. University of Waterloo, 2007.
17. **STG ORDCF**. "Caching Strategies for Multi-Core Architectures". Sun/Nortel/Government of Ontario, \$21,855 per annum. University of Waterloo, 2006-2007.
18. **STG ORDCF**. Cache Content Management. Sun/Nortel/Government of Ontario, \$20,000 per annum. University of Waterloo, Renewed for 2005-2006.
19. **STG ORDCF**. Cache Content Management. Sun/Nortel/Government of Ontario, \$20,000 per annum. University of Waterloo, 2004-2005.
20. **NSERC Discovery Grant**. “Algorithmic Foundations of the Internet, Information Retrieval and Robotics”. \$25,000 per annum. University of Waterloo, 2003-2007.
21. **NSERC Research Grant**. \$14,700 per annum. University of New Brunswick/University of Waterloo, 1999-2003.
22. **Mathematics Endowment Fund**. \$1,600. Soccer Robocup, Spring 2003.
23. **Multimedia Metadata Project, Industry Canada**. Approx. \$38,000 for a metadata proposal for the SchoolNet project, 1999, Electronic Text Centre (P.I. Alan Burk).
24. **Canadian Foundation for Innovation**. Approx. \$142,000 grant for equipment and facilities of the Internet Computing Laboratory. University of New Brunswick, 1998-1999.
25. **IMASCO Young Scholars Award**. Approx. \$6,500 for research activities. University of New Brunswick, 1998.

Other Distinctions

1. **Modern Art Museum**, Scientific photography exhibition in *La Memoria del Tiempo, 150 years of Photography in Mexico*, Mexico City, Mexico, 1990.

Invited Presentations at Conferences, Panels, Distinguished Speaker Series

1. Invited speaker, Complex Networks session, *Winter meeting of the Canadian Mathematical Society*, 2011.
2. Invited speaker (short talk). *Workshop on Beyond Worst Case Analysis*, Stanford University, September 2011.
3. Distinguished Speaker, Analysis and Design of Algorithms for Multicore Architectures, Computer Science Division, *INAOE*, Puebla, México, 2008.
4. Plenary talk, *Workshop on Algorithms and Computation (WALCOM)*, Dhaka, Bangladesh, February 2008.
5. Invited speaker, *Summer School in Computer Science Series*, University of Chile, Valparaiso, Chile, January 2008.
6. Invited speaker, *Fourth Workshop on Combinatorial and Algorithmic Aspects of Networking*, (CAAN 2007), Halifax, August 2007.
7. Invited contribution, *22nd European Conference on Operational Research EURO XXII*. Online Search Selection and Rendezvous, Prague, July 2007.
8. Internet Panel, Intermex Conference, Mexico City, Mexico, 1995.
9. Invited speaker, *XXV National Conference of the Mexican Mathematical Society*, Xalapa, México, 1992.

Invited Seminars and Presentations

10. On the List Problem with Advice, Université Paris Diderot (Paris 7), France, April 2014.
11. List Update for Data Compression, University of Ljubljana, Slovenia, March 2014.
12. Multipivot Quicksort, University of Ljubljana, Slovenia, March 2014.
13. Multipivot Quicksort, University of Primorska, Slovenia, March 2014.
14. Multipivot Quicksort, Schloss Dagstuhl, Germany, Seminar 14091, February 2014.
15. Multipivot Quicksort, Technical University of Braunschweig, Germany, February 2014.
16. List Update for Data Compression, University of Southern Denmark, Denmark, June 2013.
17. List Update for Data Compression, Schloss Dagstuhl, Germany, Seminar 13232, June 2013.
18. Competitive Analysis for Caching and Paging. University of Frankfurt, Germany, September 2012.
19. Parameterized analysis for paging; and a discussion of models for multicore computing, Karlsruhe Institute of Technology, Germany, October, 2011.
20. Efficient scheduling of equal size tasks in multiple machines, Aarhus University, Denmark, June, 2011.
21. Efficient scheduling of equal size tasks in multiple machines, Lund University, Sweden, June, 2011.
22. Efficient scheduling of equal size tasks in multiple machines, Universidad Politécnica de Cataluña, Spain, April, 2011.
23. Result Diversification via Query-Dissimilarity Expansion, Yahoo Research Europe, Barcelona, Spain, April, 2011.
24. Parameterized Analysis of Paging and List Update, Hebrew University of Jerusalem, Israel, October 2010.
25. Efficient scheduling of equal size tasks in multiple machines, University of Haifa, Israel, October 2010.
26. Parameterized Analysis of Online Algorithms, Tel Aviv University, Israel, October 2010.
27. Algorithms and Paging for Multicore (CMP) Systems, University of Haifa, Israel, October 2010.
28. Paging Algorithms for Multicore (CMP) Systems, 2010 Cheriton Research Symposium, University of Waterloo, September 2010.
29. Artificial Intelligence applications of On-line geometric Searching. University of Southern Denmark, August 2010.
30. Data Structures for Multicore Algorithms, Schloss Dagstuhl, Germany, Seminar 10091, March 2010.
31. The Role of Centralized Brokers in Distributed Computations, Schloss Dagstuhl, Germany, Seminar 09371, September 2009.
32. Online Analysis: Overview & New Directions, Schloss Dagstuhl, Germany, Seminar 09171, April 2009.
33. Parameterized Analysis of Paging and List Update, Max Planck Institute, Germany, March, 2009.
34. Analysis and Design of Algorithms for Multicore Architectures, Schloss Dagstuhl, Germany, Sem. 08081, February, 2008.
35. Measuring On-line Algorithms using the Cooperative Ratio, University of Southern Denmark, February, 2008.
36. Engineering a Set Intersection Algorithm for Information Retrieval. Yahoo Research Chile/University of Chile, January 2008.
37. On the Separation and Equivalence of Paging Strategies, Weizmann Institute, Israel, March, 2007.
38. On the Separation and Equivalence of Paging Strategies, Technion, Israel, March, 2007.
39. On the Separation and Equivalence of Paging Strategies, University of Haifa, Israel, March, 2007.

40. On the Separation and Equivalence of Paging Strategies, University of Toronto, February, 2007.
41. Alternative Models for Online Analysis. Schloss Dagstuhl, Germany, Sem. 06421, October, 2006.
42. On the Separation and Equivalence of Paging Strategies, Bertinoro Research Centre, Italy, June, 2006.
43. New Research Directions in Data Structures and Algorithms. Schloss Dagstuhl, Germany, Sem. 06091, February, 2006.
44. The Cost of Cache Oblivious Search. Schloss Dagstuhl, Germany, Sem. 04301, July, 2004.
45. Data Structures for Text Editors, Schloss Dagstuhl, Germany, Sem. 04091, February, 2004.
46. Alternatives to the Competitive Ratio Metric for On-line Navigation, Schloss Dagstuhl, Germany, Sem. 03501, Dec. 2003.
47. A Space Lower Bound for Index Size on Text Retrieval. MIT, October 2002.
48. Measuring traffic at the core of the Internet. University of New Brunswick, October, 2002.
49. Processor Scheduling for BFS/DFS Searches in Game Spaces. Algorithmic Combinatorial Game Theory, Schloss Dagstuhl, Germany, Sem. 2081, February, 2002.
50. Battleship and other Games on Interval Graphs. Algorithmic Combinatorial Game Theory, Schloss Dagstuhl, Germany, Sem. 2081, February, 2002.
51. Frequency counts on limited memory. Data Structures, Schloss Dagstuhl, Germany, Sem. 2091, March, 2002.
52. A Space Lower Bound for Index Size on Text Retrieval. University of Washington, Seattle, Washington, April, 2001.
53. On Roberto's First Problem. Data Structures, Schloss Dagstuhl, Germany, March 2000.
54. Caching protocols for the World Wide Web. IEEE CAS/COM. Telecom Applications Research Alliance, Halifax, November 1999.
55. On-line searching in Star Polygons, Universidad Politécnic de Cataluña, Barcelona, Spain, 1996.
56. Guessing vs. Coin Tossing. Department of Computer Science. University at Buffalo. Buffalo, NY, 1994.

Professional Memberships

1. Association for Computing Machinery. Member. 1991-2010. **Senior Member** 2010-present.
2. IEEE Society. Member. 1997-2007.
3. Mexican Mathematical Society. Member. 1982-2002.
4. Association for the Advancement of Artificial Intelligence, 2003-2004, 2006-2007.
5. American Mathematical Society. Member. 1989-1992.
6. Mexican Astronomical Society. Member. 1984-1985.

Service

1. **Steering Committee Member.** Canadian Conference on Computational Geometry (CCCG), 2014-2018.
2. **General conference chair.** 25th Canadian Conference on Computational Geometry (CCCG), 2013.
3. **Main organizer.** Summer School in Data Structures, 2013.
4. **General conference co-chair.** Conference on Space efficient data structures, streams and algorithms, 2013.
5. **Chair.** Nominations and Awards Committee, School of Computer Science, 2006-2014.
6. **Co-Chair.** Nominations and Awards Committee, School of Computer Science, 2014-2015.
7. **Member.** Honorary degrees committee. Faculty of Mathematics, 2007-present.
8. **Member.** J.W. Graham Medal Committee, 2005-present.
9. **Steering Committee Member.** Latin-American Conference on Informatics (LATIN), 2010-2016.
10. **Organization.**
 - a. Algorithms and Complexity Seminar, University of Waterloo, 2001-2003, 2004-2014.
 - b. Algorithmic Problem Session (jointly with T. Biedl), University of Waterloo, 2001-2007.
11. **Member,** School of Computer Science, University of Waterloo
 - a. Undergraduate Academic Plans Committee, 2009-2014.
 - b. Graduate Committee, 2002-2006.
 - c. Computer Science Computing Facility Advisory Committee, 2006-2007.
 - d. External Relations Committee, 2001-2005.
 - e. School Commons Committee, 2005-2008.
 - f. Institutional Rankings Committee, 2014-2015
 - g. University Doctoral Defense Chair, 2014-2015.

12. **Judge.** Graduate Student Research Conference, University of Waterloo, 2011.
13. **Local Arrangements Chair.** 9th Latin-American Conference on Informatics (LATIN), 2010.
14. **Member.** Faculty of Mathematics Representative Council, 2004-2006.
15. **Conference Chair and Local Arrangements Chair.** Workshop on Algorithms and Data Structures (WADS), 2005
16. **Chair.** Organizing Committee. 2nd Workshop on Combinatorial and Algorithmic Aspects of Networking, 2005.
17. **Co-Chair.** Workshops. IFIP Conference on Networking, 2005.
18. **Chair.** Organizing Committee. Workshop on Linear Time Triangulation, May, 2000.
19. **Member.** Organizing Committee, 12th Canadian Conference in Computational Geometry, 1999-2000.
20. **Member,** Institute for Computer Research (ICR), University of Waterloo, 2003-present..
21. **Member.** Organizing Committee. Workshop on Combinatorial and Algorithmic Aspects of Networking, 2004.
22. **Judge.** Local Science Fair. Fredericton region, New Brunswick, 1999.
23. **Canadian Broadcasting Corporation (CBC) Radio Fredericton.** Interview. February, 2000.
24. **The Daily Gleaner.** Newspaper interview. 1999.
25. **Member.** Faculty of Computer Science. University of New Brunswick:
 - a. Graduate Committee, 1998-1999.
 - b. Curriculum Committee, 1998-2000.
26. **Mexican Usenet.** Responsible for the creation of the mex.* Mexican news hierarchy, 1996.
27. **Member.** Nominating committee for Vice-President (Research), University of Waterloo, 1994.
28. **Chairperson.** Computer Science Graduate Student Association, University of Waterloo, 1994.
29. **Member, Board of Directors.** Graduate Student Association, University of Waterloo, 1993-1994.
30. **Chair.** International Graduate Student Committee, University of Waterloo. 1993-1994.

Additional Professional Activities

Training

Instructor. “XML: The universal data language”. Two day introductory course for industry. Information Technology Centre, UNB, March 2000 and October 1999.

Instructor. An introduction to Computer Graphics. National University of Mexico, Spring 1988. University of Zacatecas, Summer 1988.

Industry Employment

Chief Scientist. Discovery Engine. San Francisco, California. 11/2007-present.

Director of Internet Research. Management of five other researchers and prototyping of research projects for company wide deployment. Internap Network Services Corporation. 09/2000-08/2001.

Research & Development. Research Scientist (Senior Data Structures and Algorithms Specialist) for Open Text Corporation. Responsible for the design and implementation of advanced algorithms for text retrieval. 02/1996 –12/1997.

Manager. Search Engine Team, Open Text Corporation. 12/1996 –12/1997.

Vice-President Technology. Responsible for designing and overseeing the implementation of a corporate strategy for new media and the Internet. Reid Group, 1996-1997.

Technical Translation and Marketing Strategy. Waterloo Maple Software. Waterloo, Canada, 1993-1994.

Technical Translation. ESI Systems, Florida, 1993-1996.

Unisys Fellowship. An industrial/academic internship at Unisys Corporation’s Mexican offices. 1988-1989.