

Stephane Durocher, BSc, MSc, PhD

Department of Computer Science, University of Manitoba
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Professional Profile	Professor Researcher in theoretical computer science. Areas of expertise include: <ul style="list-style-type: none">▪ Computational geometry▪ Data structures▪ Algorithms▪ Geometric optimization▪ Geometric models for wireless networks▪ Clustering and depth measures for spatial data
Academic Employment	April 2020 – present Professor , Department of Computer Science, University of Manitoba April 2014 – March 2020 Associate Professor , Department of Computer Science, University of Manitoba August 2019 – March 2020 Visiting Researcher , Morpheo Research Team, INRIA Grenoble Rhône-Alpes July 2014 – June 2019 Associate Head (Graduate Program) , Department of Computer Science, University of Manitoba July 2009 – March 2014 Assistant Professor , Department of Computer Science, University of Manitoba July 2014 – present Adjunct Professor , School of Computer Science, Carleton University August 2007 – December 2008 NSERC Postdoctoral Fellow , Cheriton School of Computer Science, University of Waterloo August 2006 – July 2007 NSERC Postdoctoral Fellow , School of Computer Science, McGill University
Education	<ul style="list-style-type: none">▪ PhD (Computer Science), University of British Columbia, 2006 Thesis: Geometric Facility Location under Continuous Motion, advisor David Kirkpatrick▪ MSc (Computer Science), University of British Columbia, 1999 Thesis: Graph-Theoretic and Geometric Algorithms Associated with Moment-Based Polygon Reconstruction, advisor David Kirkpatrick▪ BSc (Computer Science specialist, Mathematics major), University of Toronto, 1997
Research Funding	<ul style="list-style-type: none">▪ Discovery Grant, Natural Sciences and Engineering Research Council of Canada (NSERC), \$240,000 (principal investigator), 2020 – 2025▪ Discovery Accelerator Supplement, Natural Sciences and Engineering Research Council of Canada (NSERC), \$120,000 (principal investigator), 2020 – 2023

- **Discovery Grant**, Natural Sciences and Engineering Research Council of Canada (NSERC), \$120,000 (principal investigator), 2015 – 2020
- **Discovery Grant**, Natural Sciences and Engineering Research Council of Canada (NSERC), \$145,000 (principal investigator), 2010 – 2015
- **Rh Award**, University of Manitoba and Winnipeg Rh Institute Foundation, \$12,000 (principal investigator), 2013, in recognition of outstanding contributions to interdisciplinary scholarship and research
- **University Research Grants Program**, University of Manitoba, \$9713 (co-investigator), 2019
- **PIMS-Europe Fellowship**, \$5,000 (principal investigator), 2019
- **INRIA Campagne Chercheurs Invités**, €6,000 (principal investigator), 2019
- **University Research Grants Program**, University of Manitoba, \$7500 (principal investigator), 2014
- **Engage Grant**, NSERC, \$25,000 (principal investigator), in collaboration with Cogmation Robotics Inc., 2012
- **University Research Grants Program**, University of Manitoba, \$7500 (principal investigator), 2012
- **University Research Grants Program**, University of Manitoba, \$7500 (principal investigator), 2010
- **Faculty of Science Start-Up Award**, University of Manitoba, \$43,000 (principal investigator), 2009

Awards

- **Discovery Accelerator Supplement**, Natural Sciences and Engineering Research Council of Canada (NSERC). Awarded to selected Discovery Grant investigators who have an established, superior research program that is highly rated in terms of originality and innovation and show strong potential to become international leaders within their field, \$120,000, 2020
- **Rh Award**, Winnipeg Rh Institute Foundation and University of Manitoba. In recognition of outstanding contributions to interdisciplinary scholarship and research, \$12,000, 2013
- **Best Paper Award**, International Conference on Distributed Computing and Networking (ICDCN), ₹2000, 2008
- **NSERC Postdoctoral Fellowship**, \$80,000, 2006
- **Best Poster Award**, Mathematics of Information Technology and Complex Systems (MITACS), first place at the poster competition of the MITACS Annual Conference, 2015
- **Instructor Teaching Award**, Department of Computer Science, University of British Columbia, 1999, 2002, 2003

Supervision of Highly Qualified Personnel

Postdoctoral researchers

- Robert Fraser, postdoctoral researcher, 2013 – 2014
Current position: Google
- Matthew Skala, postdoctoral researcher, 2011 – 2014
Current position: North Coast Synthesis

PhD

- Mike Bremner, PhD (in progress), co-supervisor by Prosenjit Bose, 2020 – present
- Anthony d'Angelo, PhD (in progress), co-supervisor by Prosenjit Bose, 2016 – present
- Yeganeh Bahoo Torudi, PhD, co-supervised by Prosenjit Bose, 2014 – 2019
Current position: tenure-track assistant professor at Ryerson University
- Debajyoti Mondal, PhD, 2012 – 2016

Current position: tenure-track assistant professor at the University of Saskatchewan

- Saeed Mehrabi, PhD, 2012 – 2015
Current position: tenure-track assistant professor at University of Massachusetts Lowell

MSc

- Sachini Rajapakse, MSc (in progress), co-supervised by Alexandre Leblanc, 2020 – present
- Md. Yeakub Hassan, MSc, 2018 – 2020
- Nima Sheibani, MSc, 2017 – 2019
Current position: Senior software developer, Sightline Innovation, Winnipeg
- Kelly Ramsay, MSc, co-supervised by Alexandre Leblanc, 2016 – 2018
Current position: PhD candidate at the University of Waterloo
- Anthony d'Angelo, MSc, co-supervised by Prosenjit Bose, 2014 – 2016
Current position: PhD candidate at Carleton University
- Sahar Mehrpour, MSc, 2014 – 2016
Current position: PhD candidate at George Mason University
- Md. Abdul Wahid, MSc, 2011 – 2013
Current position: Plekton Labs, Toronto
- Saeed Mehrabi, MSc, 2010 – 2012
Current position: tenure-track assistant professor at Memorial University of Newfoundland
- Debajyoti Mondal, MSc, 2010 – 2012
Current position: tenure-track assistant professor at the University of Saskatchewan

Undergraduate Research Assistants

- Ishan Chopra, BSc Research Assistant, 2018 – 2019
Current position: BSc at University of Manitoba
- Timothy Zapp, BSc Research Assistant, 2018
Current position: BSc at University of Manitoba
- Garrett Suss, BSc Research Assistant, 2017
Current position: Yext
- Robby Singh, BSc Research Assistant, 2016
Current position: software developer, Toronto
- Joshua Hernandez, BSc Research Assistant, 2014
Current position: Norima Consulting
- Maxime Peabody, BSc Research Assistant, 2014
Current position: Google
- Anthony d'Angelo, BSc Research Assistant, 2014
Current position: PhD candidate at Carleton University
- Kyle Joseph, BSc Research Assistant, 2012
Current position: software developer, City of Brandon
- Derek Cormier, BSc Research Assistant, co-supervised by Jim Young, 2012
Current position: Amazon
- Lyndon Miller, BSc Research Assistant, 2012
Current position: Electronic Arts, Vancouver
- Tristan Ratchford, BSc Research Assistant, co-supervised by Martin Robillard, 2007
Current position: Wellington Management

Teaching

Undergraduate Teaching

	<p>University of Manitoba</p> <ul style="list-style-type: none"> ▪ COMP 2080 – Analysis of Algorithms: 2021, 2019, 2018 ▪ COMP 2140 – Data Structures and Algorithms: 2020, 2017, 2014, 2011, 2010 (winter + fall) ▪ COMP 3170 – Analysis of Algorithms and Data Structures: 2016 ▪ COMP 4420 – Advanced Design and Analysis of Algorithms: 2021, 2017, 2014, 2013, 2012, 2011 <p>McGill University</p> <ul style="list-style-type: none"> ▪ CPSC 221 – Basic Algorithms and Data Structures: 2007 <p>University of British Columbia</p> <ul style="list-style-type: none"> ▪ CPSC 221 – Algorithms and Data Structures: 2006 ▪ CPSC 220 – Discrete Structures: 2003, 2002, 1999 <p>Graduate Teaching</p> <ul style="list-style-type: none"> ▪ University of Manitoba ▪ COMP 7922 (formerly COMP 7750) – Computational Geometry: 2018, 2015, 2014, 2011 (winter + fall), 2009 ▪ COMP 7924 (formerly COMP 7750) – Graph Drawing: 2016, 2014, 2013
<p>Service</p>	<p>Conference and Workshop Organization and Hosting</p> <ul style="list-style-type: none"> ▪ 30th Canadian Conference on Computational Geometry (CCCG), August 8-10, 2018, University of Manitoba, conference co-chair ▪ CMO-BIRS Workshop on Searching and Routing in Discrete and Continuous Domains, Oaxaca, Mexico, October 12-16, 2015, workshop co-organizer ▪ 22nd Canadian Conference on Computational Geometry (CCCG), August 9-11, 2010, University of Manitoba, conference co-chair ▪ McGill-INRIA Workshop on Computational Geometry, McGill Bellairs Research Station, Holetown, Barbados, January 27 – February 1, 2007, workshop co-organizer <p>Grant Selection Committees</p> <ul style="list-style-type: none"> ▪ Grant selection committee in Computer Science and Mathematics, le Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT), 2009 – 2010 ▪ Computing Sciences Scholarship and Fellowship Selection Committee, NSERC, 2013 – 2016 <p>Journal Editorship</p> <ul style="list-style-type: none"> ▪ Guest editor, Computational Geometry: Theory and Applications (Elsevier), 2010 – 2013, 2018 – 2020 <p>Scientific Program Committees</p> <ul style="list-style-type: none"> ▪ Program committee for the 32nd Canadian Conference on Computational Geometry (CCCG 2020) ▪ Program committee for the 13th International Workshop on Algorithms and Computation (WALCOM 2019) ▪ Program committee for the 30th Canadian Conference on Computational Geometry (CCCG 2018), co-chair

- Organizing committee for the 30th Canadian Conference on Computational Geometry (CCCG 2018), co-chair
- Program Committee for the 15th Symposium on Algorithms and Data Structures (WADS 2017)
- Program Committee for the 25th Symposium on Graph Drawing and Visualization (GD 2017)
- Program Committee for the Symposium on Computational Geometry Young Researchers Forum (SoCG YRF 2017)
- Program Committee for the 28th Canadian Conference on Computational Geometry (CCCG 2016)
- Program Committee for the 27th Canadian Conference on Computational Geometry (CCCG 2015)
- Program Committee for the 11th International Symposium on Algorithms and Experiments for Wireless Sensor Networks (ALGOSENSORS 2015)
- Program committee for the 6th International Workshop on Algorithms and Computation (WALCOM 2012)
- Program committee for the 6th International Conference on Combinatorial Optimization and Applications (COCOA 2012)
- Program committee for the 23rd Canadian Conference on Computational Geometry (CCCG 2011)
- Program committee for the 9th Latin American Theoretical Informatics Symposium (LATIN 2010)
- Program committee for the 22nd Canadian Conference on Computational Geometry (CCCG 2010), co-chair
- Organizing committee for the 22nd Canadian Conference on Computational Geometry (CCCG 2010), co-chair
- Steering committee for the Canadian Conference on Computational Geometry (CCCG), 2009 – 2013, 2016 – present

Reviewing

- Annually serves as a reviewer for dozens of journal articles, conference articles, external reviewer for various international research funding agencies, PhD external examiner, etc.

University of Manitoba

- Presidential Advisory Committee, 2020 – 2021

Faculty of Science, University of Manitoba

- Tenure and Promotion Revision Nominating Committee, 2018 – present
- PIMS Steering Committee, 2017 – present
- Promotion Nucleus Committee, 2016 – 2019
- PIMS Research Advisory Group, 2015 – present
- Research Advisory Team for Science (RATS), 2015 – 2018
- Review Panel for Excellence in Teaching Awards and Excellence in Research Awards, 2017
- NSERC Discovery Grant Internal Review Panel, 2012, 2014, 2017
- Faculty of Science Awards and Honours Committee, 2010 – 2012
- UMGF Committee, 2011 – 2012
- Canada Research Chair Search Committee, 2012 – 2013

Faculty of Graduate Studies, University of Manitoba

- CGSM Award Selection Committee, 2015 – 2018

- NSERC PGSD/M (Graduate Awards) Applications Review Committee, 2015 – 2017
- Governor General’s Gold Medal Selection Committee, 2017
- Executive Awards Committee, 2017 – 2018

Department of Computer Science, University of Manitoba

- Associate Head, Graduate Program, 2014 – 2019
- Graduate Studies Committee, 2011 – 2019, chair 2014 – 2019
- Research Faculty Hiring Committee, 2015 – 2019, 2021
- Computer Science Head Search Committee, 2016
- Instructor Hiring Committee, 2016
- Awards Committee, 2009 – 2014, chair 2011 – 2014
- Curriculum Committee, 2010
- Departmental Seminar, coordinator, 2010 – 2014
- Promotion Committee, 2020

Publications

Articles Published or Accepted for Publication in Peer-Reviewed Journals

1. Robustness and Asymptotics of the Projection Median. Kelly Ramsay, **Stephane Durocher**, and Alexandre Leblanc. *Journal of Multivariate Analysis*. 181. 18 pages. 2021.
2. Computing the k-Visibility Region of a Point in a Polygon. Yeganeh Bahoo, Prosenjit Bose, **Stephane Durocher**, and Thomas Shermer. *Theory of Computing Systems*, special issue of invited papers selected from the Thirtieth International Workshop on Combinatorial Algorithms (IWOCA 2019). 64:1292-1306. 2020.
3. Local Routing in Convex Subdivisions. Prosenjit Bose, **Stephane Durocher**, Debajyoti Mondal, Maxime Peabody, Matthew Skala, and Mohammad Abdul Wahid. *International Journal of Computational Geometry and Applications*. 30(1): 1-17 pages. 2020.
4. Polygon Simplification by Minimizing Convex Corners. Yeganeh Bahoo, **Stephane Durocher**, J. Mark Keil, Saeed Mehrabi, Sahar Mehrpour, and Debajyoti Mondal. *Theoretical Computer Science*. 791:76-86. 2019
5. Integrated Rank-Weighted Depth. Kelly Ramsay, **Stephane Durocher**, and Alexandre Leblanc. *Journal of Multivariate Analysis*. 173:51-69. 2019.
6. Relating Graph Thickness to Planar Layers and Bend Complexity. **Stephane Durocher** and Debajyoti Mondal. *SIAM Journal on Discrete Mathematics*. 32(4):2703-2719. 2019.
7. Drawing Plane Triangulations with Few Segments. **Stephane Durocher** and Debajyoti Mondal. *Computational Geometry: Theory and Applications*, special issue of invited papers selected from the Twenty-Sixth Canadian Conference on Computational Geometry (CCCG 2014). 77:27-39. 2019.
8. A Simple Linear-Space Data Structure for Constant-Time Range Minimum Query. **Stephane Durocher** and Robby Singh. *Theoretical Computer Science*. 770:51-61. 2019.
9. A Time-Space Trade-off for Computing the k-Visibility Region of a Point in a Polygon. Yeganeh Bahoo, Bahareh Banyassady, Prosenjit Bose, **Stephane Durocher**, Wolfgang Mulzer. *Theoretical Computer Science*. 789:13-21. 2019.
10. On Combinatorial Depth Measures. **Stephane Durocher**, Robert Fraser, Alexandre Leblanc, Jason Morrison, and Matthew Skala. *International Journal of Computational Geometry and Applications*. 28(4):381-398. 2018.
11. Competitive Online Routing on Delaunay Triangulations. Prosenjit Bose, Jean-Lou de Carufel, **Stephane Durocher**, and Perouz Taslakian. *International Journal of Computational Geometry and Applications*. 27(4):241-253. 2017.

12. Computing Conforming Partitions of Orthogonal Polygons with Minimum Stabbing Number. **Stephane Durocher** and Saeed Mehrabi. *Theoretical Computer Science*. 689:157-168. 2017.
13. Guarding Monotone Art Galleries with Sliding Cameras in Linear Time. Mark de Berg, **Stephane Durocher**, Saeed Mehrabi. *Journal of Discrete Algorithms*. 44:39-47. 2017.
14. The Projection Median as a Weighted Average. **Stephane Durocher**, Alexandre Leblanc, and Matthew Skala. *Journal of Computational Geometry*. 8(1):78-104. 2017.
15. Guarding Orthogonal Art Galleries with Sliding Cameras. **Stephane Durocher**, Omrit Filtser, Robert Fraser, Ali Mehrabi, and Saeed Mehrabi. *Computational Geometry: Theory and Applications*. 65:12-26. 2017.
16. Drawing Planar Graphs with Reduced Height. **Stephane Durocher** and Debajyoti Mondal. *Journal of Graph Algorithms and Applications*. 21(4):433-453. 2017.
17. Thickness and Colorability of Geometric Graphs. **Stephane Durocher**, Ellen Gethner, and Debajyoti Mondal. *Computational Geometry: Theory and Applications*. 56:1-18. 2016.
18. Linear-Space Data Structures for Range Frequency Queries on Arrays and Trees. **Stephane Durocher**, Rahul Shah, Matthew Skala, and Sharma Thankachan. *Algorithmica*. 74(1):344-366. 2016.
19. Low Space Data Structures for Geometric Range Mode Query. **Stephane Durocher**, Ian Munro, Hicham El-Zein, and Sharma Thankachan. *Theoretical Computer Science*. 581:97-101. 2015.
20. Complexity of Barrier Coverage with Relocatable Sensors in the Plane. Stefan Dobrev, **Stephane Durocher**, Konstantinos Georgiou, Mohsen Eftekhari Hesari, Evangelos Kranakis, Danny Krizanc, Lata Narayanan, Jarda Opatrny, Sunil Shende, and Jorge Urrutia. *Theoretical Computer Science*. 579:64-73. 2015.
21. Searching on a Line: A Complete Characterization of the Optimal Solution. Prosenjit Bose, Jean-Lou de Carufel, and **Stephane Durocher**. *Theoretical Computer Science*. 569:24-42. 2015.
22. On Graphs That Are Not PCGs. **Stephane Durocher**, Debajyoti Mondal, and Md. Saidur Rahman. *Theoretical Computer Science*. 571:78-87. 2015.
23. Plane 3-trees: Embeddability and Approximation. **Stephane Durocher** and Debajyoti Mondal. *SIAM Journal on Discrete Mathematics*. 29(1):405-420. 2015.
24. Cycle-Maximal Triangle-Free Graphs. **Stephane Durocher**, David Gunderson, Ben Li, and Matthew Skala. *Discrete Mathematics*. 338(2):274-290. 2015.
25. Linear-Space Data Structures for Range Minority Query in Arrays. Timothy M. Chan, **Stephane Durocher**, Matthew Skala, and Bryan T. Wilkinson. *Algorithmica*. 72(4):901-913. 2015.
26. Bounding Interference in Wireless Ad Hoc Networks with Nodes in Random Position. Majid Khabbazian, **Stephane Durocher**, Alireza Haghnegahdar, and Fabian Kuhn. *IEEE/ACM Transactions on Networking*. 23(4):1078-1091. 2015.
27. The Hausdorff Core Problem on Simple Polygons. Reza Dorrigiv, **Stephane Durocher**, Arash Farzan, Robert Fraser, Alejandro López-Ortiz, Ian Munro, Alejandro Salinger, and Matthew Skala. *Journal of Computational Geometry*. 5(1):14-40. 2014.
28. Linear-Space Data Structures for Range Mode Query in Arrays. Timothy M. Chan, **Stephane Durocher**, Kasper Green Larsen, Jason Morrison, and Bryan T. Wilkinson. *Theory of Computing Systems, special issue of invited papers selected from the Twenty-Ninth Symposium on Theoretical Aspects of Computer Science (STACS 2012)*. 55(4):719-741. 2014.

29. Robust Nonparametric Simplification of Polygonal Chains. **Stephane Durocher**, Alexandre Leblanc, Jason Morrison, and Matthew Skala. *International Journal of Computational Geometry and Applications*, special issue of invited papers selected from the Twenty-Third International Symposium on Algorithms and Computation (ISAAC 2012). 23(6):427-441. 2013.
30. A Note on Minimum-Segment Drawings of Planar Graphs. **Stephane Durocher**, Debajyoti Mondal, Rahnuma Islam Nishat, and Sue Whitesides. *Journal of Graph Algorithms and Applications*. 17(3):301-328. 2013.
31. Bounding the Locality of Distributed Routing Algorithms. Prosenjit Bose, Paz Carmi, and **Stephane Durocher**. *Distributed Computing*. 26(1):39-58. 2013.
32. Faster Optimal Algorithms for Segment Minimization with Small Maximal Value. Therese Biedl, **Stephane Durocher**, Céline Engelbeen, Samuel Fiorini, and Maxwell Young. *Discrete Applied Mathematics*. 161(3):317-329. 2013.
33. Range Majority in Constant Time and Linear Space. **Stephane Durocher**, Meng He, Ian Munro, Patrick Nicholson, and Matthew Skala. *Information and Computation*, special issue of invited papers selected from the Thirty-Eighth International Colloquium on Automata, Languages and Programming (ICALP 2011). 222:169-179. 2013.
34. Cool-lex Order and k-ary Catalan Structures. **Stephane Durocher**, Ben Li, Debajyoti Mondal, Frank Ruskey, and Aaron Williams. *Journal of Discrete Algorithms*, special issue of invited papers selected from the Twenty-Second International Workshop on Combinatorial Algorithms (IWOCA 2011). 16:287-307. 2012.
35. Untangled Monotonic Chains and Adaptive Range Search. Diego Arroyuelo, Francisco Claude, Reza Dorrigiv, **Stephane Durocher**, Meng He, Alejandro López-Ortiz, Ian Munro, Patrick Nicholson, Alejandro Salinger, and Matthew Skala. *Theoretical Computer Science*, special issue of invited papers selected from the Twentieth International Symposium on Algorithms and Computation (ISAAC 2009). 412(32):4200-4211. 2011.
36. A Note on Improving the Performance of Approximation Algorithms for Radiation Therapy. Therese Biedl, **Stephane Durocher**, Holger Hoos, Shuang Luan, Jared Saia, and Maxwell Young. *Information Processing Letters*. 111(7):326-333. 2011.
37. Modelling Gateway Placement in Wireless Networks: Geometric k-Centres of Unit Disc Graphs. **Stephane Durocher**, Krishnam Raju Jampani, Anna Lubiw, and Lata Narayanan. *Computational Geometry: Theory and Applications*. 44(5):286-302. 2011.
38. Reconstructing Polygons from Scanner Data. Therese Biedl, **Stephane Durocher**, and Jack Snoeyink. *Theoretical Computer Science*, special issue of invited papers selected from the Twentieth International Symposium on Algorithms and Computation (ISAAC 2009). 412(32):4161-4172. 2011.
39. Comparing Geometric Models for Orientation: Medial vs. Principal Axes. Debbie Kelly and **Stephane Durocher**. *Communicative and Integrative Biology*. 4(6):710-712. Invited contribution, 2011.
40. A Misunderstanding of Principal and Medial Axes? Reply to Sturz and Bodily (2011). Debbie Kelly, **Stephane Durocher**, Cinzia Chiandetti, and Giorgio Vallortigara. *Biology Letters*. 7(5):649-650. Invited contribution, 2011.
41. An Improved Line-Separable Algorithm for Discrete Unit Disk Cover. Francisco Claude, Gautam K. Das, Reza Dorrigiv, **Stephane Durocher**, Robert Fraser, Alejandro López-Ortiz, Bradford G. Nickerson, and Alejandro Salinger. *Discrete Mathematics, Algorithms and Applications*, special issue of invited papers selected from the Twentieth International Symposium on Algorithms and Computation (ISAAC 2009). 2(1):77-87. 2010.

42. On Routing with Guaranteed Delivery in Three-Dimensional Ad Hoc Wireless Networks. **Stephane Durocher**, David Kirkpatrick, and Lata Narayanan. *Wireless Networks*. 16(1):227-235. 2010.
43. Balancing Traffic Load Using One-Turn Rectilinear Routing. **Stephane Durocher**, Evangelos Kranakis, Danny Krizanc, and Lata Narayanan. *Journal of Interconnection Networks*. 10(1-2):93-120. 2009.
44. The Projection Median of a Set of Points. **Stephane Durocher** and David Kirkpatrick. *Computational Geometry: Theory and Applications*, special issue of invited papers selected from the Seventeenth Canadian Conference on Computational Geometry (CCCG 2005). 42(5):364-375. 2009.
45. Kinetic Maintenance of Mobile k -Centres on Trees. **Stephane Durocher** and Christophe Paul. *Discrete Applied Mathematics*. 157(7):1432-1446. 2009.
46. Bounded-Velocity Approximation of Mobile Euclidean 2-Centres. **Stephane Durocher** and David Kirkpatrick. *International Journal of Computational Geometry and Applications*. 18(3):161-183. 2008.
47. The Steiner Centre: Stability, Eccentricity, and Applications to Mobile Facility Location. **Stephane Durocher** and David Kirkpatrick. *International Journal of Computational Geometry and Applications*. 16(4):345-371. 2006.
48. Toward the Rectilinear Crossing Number of K_n : New Drawings, Upper Bounds, and Asymptotics. Alex Brodsky, **Stephane Durocher**, and Ellen Gethner. *Discrete Mathematics*. 262(1-3):59-77. 2003.
49. The Rectilinear Crossing Number of K_{10} is 62. Alex Brodsky, **Stephane Durocher**, and Ellen Gethner. *Electronic Journal of Combinatorics*. 8(1):R23 1-30. 2001.

Articles Published or Accepted for Publication in Peer-Reviewed Conference Proceedings

50. Efficient Privacy-Preserving Approaches for Trajectory Datasets. Md Yeakub Hassan, Ullash Saha, Noman Mohammed, **Stephane Durocher**, and Avery Miller. In proceedings of the Sixth IEEE International Conference on Cloud and Big Data Computing (CBDCoM 2020). 612-619. 2020.
51. On the Restricted 1-Steiner Tree Problem. Prosenjit Bose, Anthony d'Angelo, and **Stephane Durocher**. In proceedings of the Twenty-Sixth International Computing and Combinatorics Conference (COCOON 2020). Springer Lecture Notes in Computer Science. 12273:448-459. 2020.
52. Non-Crossing Matching of Online Points. Prosenjit Bose, Paz Carmi, **Stephane Durocher**, Shahin Kamali, and Arezoo Sajadpour. In proceedings of the Thirty-Second Canadian Conference on Computational Geometry (CCCG 2020). 233-239. 2020.
53. Clustering Moving Entities in Euclidean Space. **Stephane Durocher** and Md. Yeakub Hassan. In proceedings of the Seventeenth Scandinavian Symposium and Workshops on Algorithm Theory (SWAT 2020). 22.1-22.14. 2020.
54. Watchtower for k -Crossing Visibility. Yeganeh Bahoo, Prosenjit Bose, and **Stephane Durocher**. In proceedings of the Thirty-First Canadian Conference on Computational Geometry (CCCG 2019). 203-209. 2019.
55. Visibility Query without Preprocessing. Yeganeh Bahoo, Prosenjit Bose, **Stephane Durocher**, and Thomas Shermer. In proceedings of the Thirtieth International Workshop on Combinatorial Algorithms (IWOCA 2019). Springer Lecture Notes in Computer Science. 11638:10-21. 2019.
56. Interference Minimization in k -Connected Wireless Networks. **Stephane Durocher** and Sahar Mehrpour. In proceedings of the Twenty-Ninth Canadian Conference on Computational Geometry (CCCG 2017). 113-119. 2017.

57. Exploring Increasing-Chord Paths and Trees. Yeganeh Bahoo, **Stephane Durocher**, Sahar Mehrpour, and Debajyoti Mondal. In proceedings of the Twenty-Ninth Canadian Conference on Computational Geometry (CCCG 2017). 19-24. 2017.
58. Time-Space Trade-off for Finding the k -Visibility Region of a Point in a Polygon. Yeganeh Bahoo, Bahareh Banyassady, Prosenjit Bose, **Stephane Durocher**, Wolfgang Mulzer. In proceedings of the Eleventh Workshop on Algorithms and Computation (WALCOM 2017). Springer Lecture Notes in Computer Science. 10167:308-319. 2017.
59. Relating Graph Thickness to Planar Layers and Bend Complexity. **Stephane Durocher** and Debajyoti Mondal. In proceedings of the Forty-Third International Colloquium on Automata, Languages and Programming (ICALP 2016). Leibniz International Proceedings in Informatics. 10.1-10.13. 2016.
60. On the Biplanar Crossing Number of K_n . **Stephane Durocher**, Ellen Gethner, and Debajyoti Mondal. In proceedings of the Twenty-Eighth Canadian Conference on Computational Geometry (CCCG 2016). 93-100. 2016.
61. Polygon Simplification by Minimizing Convex Corners. Yeganeh Bahoo, **Stephane Durocher**, J. Mark Keil, Saeed Mehrabi, Sahar Mehrpour, and Debajyoti Mondal. In proceedings of the Twenty-Second International Computing and Combinatorics Conference (COCOON 2016). Springer Lecture Notes in Computer Science. 9797:547-559. 2016.
62. Realization of Simply Connected Polygonal Linkages and Recognition of Unit Disk Contact Trees. Clinton Bowen, **Stephane Durocher**, Maarten Löffler, Anika Rounds, André Schulz, and Csaba Tóth. In proceedings of the Twenty-Third International Symposium on Graph Drawing and Network Visualization (GD 2015). Springer Lecture Notes in Computer Science. 9411:447-459. 2015.
63. Duality for Geometric Set Cover and Geometric Hitting Set Problems on Pseudodisks. **Stephane Durocher** and Robert Fraser. In proceedings of the Twenty-Seventh Canadian Conference on Computational Geometry (CCCG 2015). 8-16. 2015.
64. Guarding Orthogonal Terrains. **Stephane Durocher**, Ben Li, and Saeed Mehrabi. In proceedings of the Twenty-Seventh Canadian Conference on Computational Geometry (CCCG 2015). 220-227. 2015.
65. Exploring Test Suite Diversification and Code Coverage in Multi-Objective Test Case Selection. Debajyoti Mondal, Hadi Hemmati, and **Stephane Durocher**. In proceedings of the Eighth IEEE International Conference on Software Testing, Verification and Validation (ICST 2015). 1-10. 2015.
66. Local Routing in Convex Subdivisions. Prosenjit Bose, **Stephane Durocher**, Debajyoti Mondal, Maxime Peabody, Matthew Skala, and Mohammad Abdul Wahid. In proceedings of the Forty-First International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2015). Springer Lecture Notes in Computer Science. 8939:140-151. 2015.
67. Guarding Monotone Art Galleries with Sliding Cameras in Linear Time. Mark de Berg, **Stephane Durocher**, Saeed Mehrabi. In proceedings of the Eighth International Conference on Combinatorial Optimization and Applications (COCOA 2014). Springer Lecture Notes in Computer Science. 8881:113-125. 2014.
68. A 3-Approximation Algorithm for Guarding Orthogonal Art Galleries with Sliding Cameras. **Stephane Durocher** and Saeed Mehrabi. In proceedings of the Twenty-Fifth International Workshop on Combinatorial Algorithms (IWOCA 2014). Springer Lecture Notes in Computer Science. 8986:140-152. 2014.
69. Competitive Online Routing on Delaunay Triangulations. Prosenjit Bose, Jean-Lou de Carufel, **Stephane Durocher**, and Perouz Taslakian. In proceedings of the

- Fourteenth Scandinavian Symposium and Workshops on Algorithm Theory (SWAT 2014). Springer Lecture Notes in Computer Science. 8503:98-109. 2014.
70. Indexed Geometric Jumbled Pattern Matching. **Stephane Durocher**, Robert Fraser, Travis Gagie, Debajyoti Mondal, Matthew Skala, and Sharma Thankachan. In proceedings of the Twenty-Fifth Annual Symposium on Combinatorial Pattern Matching (CPM 2014). Springer Lecture Notes in Computer Science. 8486:110-119. 2014.
 71. A $(7/2)$ -Approximation Algorithm for Guarding Orthogonal Art Galleries with Sliding Cameras. **Stephane Durocher**, Omrit Filtser, Robert Fraser, Ali Mehrabi, and Saeed Mehrabi. In proceedings of the Eleventh International Latin American Symposium on Theoretical Informatics (LATIN 2014). Springer Lecture Notes in Computer Science. 8392:294-305. 2014.
 72. Drawing HV-Restricted Planar Graphs. **Stephane Durocher**, Stefan Felsner, Saeed Mehrabi, and Debajyoti Mondal. In proceedings of the Eleventh International Latin American Symposium on Theoretical Informatics (LATIN 2014). Springer Lecture Notes in Computer Science. 8392:156-167. 2014.
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Other Contributions

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**Invited Talks and
Conference
Presentations**

1. Dagstuhl Workshop on Synergies between Adaptive Analysis of Algorithms, Parameterized Complexity, Compressed Data Structures and Compressed Indices, Saarbrücken, Germany, 2018
2. Canadian Conference on Computational Geometry (CCCG), Ottawa, Canada, 2017
3. Canadian Conference on Computational Geometry (CCCG), Vancouver, Canada, 2016
4. Combinatorics Seminar, Department of Mathematics, University of Manitoba, 2016
5. Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM). Pec pod Sněžkou, Czech Republic, 2015.
6. CMO-BIRS Workshop on Searching and Routing in Discrete and Continuous Domains in Oaxaca, Mexico, 2015
7. Combinatorics Seminar, Department of Mathematics, University of Manitoba, 2015
8. Symposium on Graph Drawing (GD), Bordeaux, France, 2013
9. String Processing and Information Retrieval Symposium (SPIRE), Jerusalem, Israel, 2013
10. Canadian Operational Research Society Annual Conference (CORS), Vancouver, Canada, 2013
11. Conference on Space Efficient Data Structures, Streams and Algorithms, Waterloo, Canada, 2013
12. Ben Gurion University of the Negev, Beer-Sheva, Israel, 2013
13. Computer Science Seminar, University of Saskatchewan, 2013
14. Computational Math Colloquium, Department of Mathematical and Statistical Sciences, University of Colorado Denver, 2013
15. Computer Science Departmental Seminar, University of Manitoba, 2013
16. SIAM Conference on Discrete Mathematics (DM), Halifax, Canada, 2012
17. Algorithms Seminar, School of Computer Science, Carleton University, 2011
18. BETA Lab Seminar Series, Department of Computer Science, University of British Columbia, 2011
19. Computational Math Colloquium, Department of Mathematical and Statistical Sciences, University of Colorado Denver, 2011
20. Departmental Seminar, Department of Mathematics and Statistics, University of Winnipeg, 2011
21. Combinatorics and Discrete Geometry Seminar, Centre for Discrete and Computational Geometry, Department of Mathematics, University of Calgary, 2010
22. Department of Computer Science, University of British Columbia, 2010
23. Workshop on Optimal Data Structures for Efficient Organization and Retrieval of Massive Spatial Data, University of New Brunswick, 2010
24. Department Colloquium, School of Electrical Engineering and Computer Science, Oregon State University, 2010
25. Algorithms and Complexity Group Seminar, School of Computer Science, University of Waterloo, 2010
26. Fields Workshop on Discrete and Computational Geometry, Gatineau, Québec, Canada, 2009
27. 28th ACM Symposium on Principles of Distributed Computing (PODC), Calgary, Canada, 2009
28. 20th International Symposium on Algorithms and Computation (ISAAC), Honolulu, USA, 2009
29. Department of Statistics Seminar, University of Manitoba, 2009

30. Departmental Seminar, Department of Computer Science, University of Saskatchewan, 2008
31. Canadian Mathematical Society Winter Meeting, Ottawa, Canada, 2008
32. ACM SIGACT-SIGOPS Workshop on Foundations of Mobile Computing (FOMC), Toronto, Canada, 2008
33. Department of Computer Science, University of Manitoba, 2008
34. SIAM Conference on Discrete Mathematics (DM), Burlington, USA, 2008
35. Combinatorics and Optimization Seminar, Department of Combinatorics and Optimization, University of Waterloo, 2008
36. Networks and Distributed Systems Seminar, Cheriton School of Computer Science, University of Waterloo, 2008
37. International Conference on Distributed Computing and Networking (ICDCN), Kolkata, India, 2008
38. Algorithms and Complexity Group Seminar, Cheriton School of Computer Science, University of Waterloo, 2008 (2 presentations)
39. Algorithms Seminar, School of Computer Science, Carleton University, 2008
40. International Symposium on Algorithms and Computation (ISAAC), Sendai, Japan, 2007
41. Theory Seminar, Department of Computer Science, University of Toronto, 2007
42. BETA Lab Seminar Series, Department of Computer Science, University of British Columbia, 2007
43. Département Informatique, Laboratoire d'Informatique, de Robotique, et de Microélectronique de Montpellier, Montpellier, France, 2007
44. Algorithms Seminar, School of Computer Science, Carleton University, 2007
45. Department of Mathematics and Computer Science, University of Lethbridge, 2007
46. Algorithms and Complexity Group Seminar, Cheriton School of Computer Science, University of Waterloo, 2007 (3 presentations)
47. Computer Science and Software Engineering Seminar, Department of Computer Science, Concordia University, 2006
48. Discrete Mathematics Seminar, Department of Mathematics and Statistics, McGill University, 2006
49. Algorithms Seminar, McGill University, 2006
50. Canadian Conference on Computational Geometry (CCCG), Kingston, Canada, 2006
51. School of Engineering and Computer Science, Washington State University, 2006
52. Department of Computer Science, University of Saskatchewan, 2006
53. Department of Information and Computing Sciences, Utrecht University, 2006
54. Fall Workshop on Computational Geometry and Visualization, Philadelphia, USA, 2005
55. Canadian Conference on Computational Geometry (CCCG), Windsor, Canada, 2005
56. Canadian Conference on Computational Geometry (CCCG), Montréal, Canada, 2004
57. Canadian Conference on Computational Geometry (CCCG), Halifax, Canada, 2003
58. PIMS/MITACS Discrete Mathematics Seminar, Simon Fraser University, 2001
59. Southeastern International Conference on Combinatorics, Graph Theory and Computing, Baton Rouge, USA, 2001
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