Pat Morin

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Education

Jan. 2001–Dec. 2001	NSERC Post-doctoral fellow at McGill University
Jan. 1998–Jan. 2001	PhD (Computer Science) from Carleton University
Sep. 1996–Jan. 1998	M.C.S. degree from Carleton University
Sep. 1991–May 1996	B.C.S. degree (highest honours) from Carleton University

Academic Awards

January 2021	Faculty of Science Research Excellence Award	$5 000
January 2017	Faculty of Science Teaching Award	$1 000
January 2009	Research Achievement Award	$15 000
June 2001	Best Paper Award — SIROCCO 2001 [100]	
Jan. 2001–Dec. 2001	NSERC Postdoctoral Fellowship	$35 000/yr
May 2001	Carleton University Senate Medal	
May 1999–Apr. 2001	NSERC PGS-B Scholarship	$19 000/yr
May 1997–Apr. 1999	NSERC PGS-A Scholarship	$16 000/yr

Research Grants

2018–2022	NSERC	Discovery Grant	6×$48 000
2017–2018	eCampusOntario	Open Content Funding	$97 390
2013–2017	NSERC	Discovery Grant	5×$36 000
2012–2013	SSHRC	Partnership Dev	$21 000
2012–2013	NSERC	ENGAGE	$25 000
2009	Carleton University	Research Award	$15 000
2008–2010	NSERC	Discovery Accelerator	3×$40 000
2008–2012	NSERC	Discovery Grant	5×$26 000
2008	University of Sydney	Research Fellowship	$15 000
2008	National ICT Australia	Collaboration Grant	$7 000
2008	Ontario Innovation Trust	Matching Program	$24 145
2008	Canada Foundation for Innovation	New Opportunities Fund	$24 145
2007	Ontario Government	Early Researcher Award	$100 000
2007	Carleton University	Carty Fellowship	$50 000
2006	Belgian FNRS	Collaboration Grant	€5 000
2003–2007	NSERC	Discovery Grant	5×$21 000
2004	Ontario Innovation Trust	Matching Program	$83 227
2004	Canada Foundation for Innovation	New Opportunities Fund	$83 227
2002	Carleton University	Startup Grant	$30 000

Relevant Work Experience

Professor	Jul. 2013– Professor of computer science	Carleton University	Ottawa, Canada
Associate Professor	Jul. 2006–Jun. 2013 Associate professor of computer science	Carleton University	Ottawa, Canada
Assistant Professor	Jan. 2002–Jun. 2006 Assistant professor of computer science	Carleton University	Ottawa, Canada
Postdoctoral Fellow	Jan. 2001–Dec. 2001 NSERC-funded postdoctoral fellow	McGill University	Montréal, Canada

Current Research Interests

Graph theory and algorithms
The study of combinatorial, structural, and algorithmic problems on graphs [30, 29, 27, 24, 18, 31, 32, 28, 33, 34, 36, 37, 39, 42, 47, 20, 21]

Geometric computing
The study of algorithmic and combinatorial geometry problems motivated by application areas such as robust statistics [84, 88, 109, 156, 112, 159], geographic information systems [110, 113, 139, 165], molecular biology and polymer physics [85, 115, 116, 118, 135], manufacturing [99, 106, 74, 77], facility location [95, 101, 112, 159, 38], automated cartography [107], machine learning [94], and visualization [97, 96, 98, 134]

Data structures
The design and analysis of efficient dictionaries [11, 103, 111, 160, 44, 43] and geometric data structures [112, 159]

Online and distributed computing
The design and analysis of communication protocols and distributed algorithms [100, 102, 108, 114, 117, 113, 133, 41, 37, 34]

Professional Duties

Program Committees
ISAAC 2002, CCCG 2004, Adhoc Now 2005, AAIM 2006, ISAAC 2006, Adhoc Now 2006, CCCG 2006, SoCG 2007, Adhoc Now 2007, SWAT 2008, CCCG 2008, ISAAC 2008, CCCG 2009, EuroCG 2009, CATS 2009, CCCG 2010, CCCG 2012, COCOON 2012, ISAAC 2013, CCCG 2014, CCCG 2015, SoCG 2017, CCCG 2020, STACS 2021, WADS 2021, CCCG 2022, WADS 2023, SoCG 2023, ESA 2024 (Track S)

Organizing Committee
CCCG 2007, Workshop on Geometry and Graphs (2013, 2014, 2015, 2016, 2017, 2018), CCCG 2017

Program Chair
CCCG 2008, WADS 2023 (co-chair)

Review Boards
MITACS College of Reviewers (2008), Ontario Graduate Scholarship Selection Committee (2008), MRI Early Researcher Awards Adjudication Committee (2010, 2011, 2013, 2014, 2017, 2018, 2021), NSERC DG Evaluation Group 1507 (2021–2023), NSERC Discovery Horizons Fit Advisor 2023

Managing Editor
Journal of Computational Geometry (also co-founder, with Joachim Gudmundsson)

Teaching and Supervision Duties

Thesis Committees	Ahmed Moustafa (M.E., F2002), Xiaofei Jia (M.C.S, W2003), Paul Boone (M.C.S, F2003), Karel Casteels (M.Math, W2004), Ebrahim Malalla (Ph.D, McGill, W2004), Aaron Lee (M.C.S, S2004), Liang Tang (M.C.S, W2005), Derek Bradley (M.C.S, W2005), James Kelly (M.C.S, S2006), Sébastien Collette (Ph.D, Université Libre de Bruxelles, F2006), Shai Mor (M.Sc, F2006), Qiasheng Shi (Ph.D, 2008, Simon Fraser University), Sadrul Chowdhury (M.C.S, University of Ottawa, W2008), Michel Paquette (Ph.D. W2010), Dana Jansens (M.C.S, W2010), Chris Hamilton (Ph.D, W2011, Dalhousie University), Bojan Djordjević (Ph.D, S2011, University of Sydney), Jeff Sember (Ph.D, S2011, University of British Columbia), Gregory Bint (MCS, F2014), Ahmad Biniaz (Ph.D, F2016), Kimberly Crosbie (MCS., W2017), Rasoul Shahsavarifar (Ph.D, W2019, University of New-Brunswick), Djedjiga Outioua (MCS., W2020), Bryce Sandlund (PhD, Waterloo, W2021), Yunkai Wang (MCS., W2020)
Students and Postdocs	David R. Wood (Postdoc 2002–2004), Greg Aloupis (FCAR Postdoc 2005–2006), Meng He (Postdoc 2007–2008), Mohammad Farshi (Postdoc 2007–2008), Vida Dujmović (Postdoc 2008), Paz Carmi (Postdoc 2006–2008), Vida Dujmović (NSERC Postdoc 2004–2005, 2008–2009), Yihui Tang (Ph.D, 2008), Stefanie Wuhrer (M.C.S., 2006), Harish Gopala (M.C.S., 2004), John Howat (MCS, 2009), John Howat (PhD, 2012), Dan Chen (PhD, 2013), Zhamila Abdranova (MCS, 2013), Daniel Minor (MCS, 2015), Andre van Renssen (PhD, 2014), Sander Verdonschot (PhD, 2015), Tommy Reddad (MCS, 2015), Lucas Rioux-Maldague (MCS 2015), Luis Barba (PhD, 2016), Cory Fraser (MCS, 2016), Alexis Beingessner (MCS, 2016), Luis Fernando Schulz Xavier de Silveira (PhD 2020), Céline Yelle (MCS 2020), Hugo Akitaya (Postdoc, 2019–2020), Saeed Mehrabi (Postdoc, 2018–2020), Mehrnoosh Javarsineh (PhD, 2019–), Saman Bazarghani (PhD, 2019–), Saeed Odak (PhD, 2020–), Hussein Houdrouge (PhD, 2021–), David Worley (PhD, 2021–)
Honours Projects	Michael Hodge (Diameter Finding Algorithms, W2002), Jake Denley (Generation of Random Scenery, W2004), Darcy Dunne (A Fast Algorithm for Finding the Minimum Circular Half-Covering of a 2D Point Set), Tair Bilyalov (Random 3D Terrain in Computer Games, W2005), Jeremy Gribben (Procedural Generation of Random 3D Vehicles, W2005), Christopher Johnson (Randomized Scenery in 3D Gaming, W2005), Dmitry Karasik (IOUs in BitTorrent, W2005), Vladimir Bradateanu (Dynamically Generated Random Terrain and Trees, S2005), Jamie Suomela (Random Generation of Billboard Advertising for Use in Racing Games, S2005), Gi Wu (BitTorrent IOU Extensions, S2005), Mykola Konyk (Polyhedral Surface Reconstruction, W2006), Richard Poulin (Dynamic Workflow — Graph Drawing, S2007), Irwin Zaid (Graph Hierarchies which Approximate the Complete Euclidean Graph, F2007), Shayan Negari (Application Sharing Over the Public Internet, F2007), Rajinder Wasson (A Mediawiki Sports League Extension, W2008), Daniel Minor (Cuckoo Hashing in Python, W2008), Yini He (Fast Searching in the HTML DOM, W2008), Paul Cumming (MediaWiki 2.0, W2008), Vlad Rubinov (Fast HDR, F2009), Bryan Waite (Open Source decompression algorithms, W2010), Edward Duong (Real-time HDR, W2010), Calvin Wiebe (Halia: A JavaScript DOM Querying Algorithm, F2010), Nima Hoda (Visibility-Monotonic Polygon Deflation, W2013), Troy Hildebrandt (Robust Constructive Solid Geometry, W2013), Christian Delahouse (Data Structures for Approximate String Searching, W2015) Joel Scarfone (A C++ Eytzinger Library, F2017), Basim Ramadhan (The Lovelace Engine: A Simple & Secure Submission Server, W2018),

Summer Undergraduates	Christian Leger (Relations Between Binary and Ternary Trees, S2005), Christian Muise (Data Structures for the HTML DOM, S2007), Irwin Zaid (Hierarchical Spanners, S2007), John Howat (Property-Rich Succinct Data Structures, S2007), James Mendek (Distribution-Sensitive Point Location, S2008), Shane Smith (Simple Compiler Compiler, S2010), Nima Hoda (Basic Data Structures, S2011), Nima Hoda (Polygon Reconfiguration, S2012), Troy Hildebrand (3DCSS in Chromium, S2013), Jennifer Hood (Graph Drawing, S2015), Gahen Thanabalasingam (Data Structures, S2017), Sean Hodges (Data Structures, S2017), Martin Lunn (Data Structures, S2017), Ivana Marusic (Graph Algorithms, S2020)
Committees	Lab Committee (2002, 2003, 2004) Hiring Commitee (2003, 2004, 2005, 2006, 2007, 2014, 2020, 2021) Curriculum Committee (2003) Departmental Promotions and Tenure Committee (2003, 2007, 2014, 2020*) Faculty Promotions and Tenure Committee (2020) RAA Evaluation Committee (2013, 2014, 2016) Development Grant Review Committee (2017) Tenure and Promotion Appeals Committee (2019, 2020) Field Institute Activities Committee (2019–2021) SCS Executive Committe (2021) SCS Tenure and Promotion Committee Chair (2020, 2021) Faculty of Science Tenure and Promotion Committee (2020, 2021)
Courses Taught	COMP5408 Advanced Data Structures (W2002, F2003, F2004, W2006, W2007, W2008, F2009, W2011, W2012, W2013, W2014, F2021) COMP4804 Algorithms II (W2003, W2004, W2005, W2006, W2010, W2017) COMP4900/5900 Computational Molecular Biology (W2006, W2007) COMP3804 Algorithms I (W2006) COMP3002 Compiler Construction (W2003, W2004, W2005, W2008, F2009, W2011, F2011) COMP2804 Discrete Structures II (F2019×2, W2020, F2020, W2022) COMP2405 Internet Application Programming (W2007, W2008) COMP2402 Data Structures (F2010, F2011, F2012, F2013, F2014, F2016, F2018, F2020) COMP5804 OCICS Graduate Seminar (2004, 2005, 2006, 2007, 2008) COMP1405 Introduction to Programming (F2012, F2013, F2014)

Publications

Submitted Papers

[1] John Iacono, Piotr Micek, Pat Morin, and Bruce Reed. Vertex ranking of degenerate graphs. Submitted to *Random Structures & Algorithms* in April 2024.

[2] Vida Dujmović, Gwenaël Joret, Piotr Micek, and Pat Morin. Tight bound for the Erdős-Pósa property of tree minors. Submitted to *Combinatorics, Probability & Computing* in March 2024.

[3] Louigi Addario-Berry, Pat Morin, and Ralph Neininger. Patricia's bad distributions. Submitted to *Analysis of Algorithms (AofA 2024)* in March 2024.

[4] Vida Dujmović, Pat Morin, David R. Wood, and David Worley. Grid minors and products. Submitted to *Electronic Journal of Combinatorics* in February 2024.

[5] Prosenjit Bose, Vida Dujmović, Hussein Houdrouge, Pat Morin, and Saeed Odak. Connected dominating sets in triangulations. Submitted to *SoCG 2024* in December 2023 and rejected in February 2024.

[6] Oscar Defrain, Louis Esperet, Aurélie Lagoutte, Pat Morin, and Jean-Florent Raymond. Local certification of geometric graph classes. Submitted to *SoCG 2024* in December 2023 and rejected in February 2024.

[7] Prosenjit Bose, Vida Dujmović, Mehrnoosh Javarsineh, and Pat Morin. Asymptotically optimal vertex ranking of planar graphs. Submitted to *SODA 2021* in July 2020 and rejected in October 2020.Submitted to *Journal of Combinatorial Theory: Series B* in November 2020. Revisions requested in January 2022 and provided in August 2022.

Books

[8] Pat Morin. *Open Data Structures (in Pseudocode)*. Web, 2014. A freely-available open content textbook.

[9] Pat Morin. *Open Data Structures: An Introduction*. Athabasca University Press, Edmonton, 2013. Also freely available as *Open Data Structures (in Java)* at opendatastructures.org.

[10] Pat Morin. *Open Data Structures (in C++)*. Web, 2012. A freely-available open content textbook.

Chapters in Books

[11] Pat Morin. Hash tables. In Dinesh Mehta and Sartaj K. Sahni, editors, *Handbook of Data Structures and Applications*, chapter 9. CRC Press, 2004.

Papers Accepted in Refereed Journals

[12] Vida Dujmović, Gwenaël Joret, Piotr Micek, Pat Morin, and David R. Wood. Bounded-degree planar graphs do not have bounded-degree product structure. *Electronic Journal of Combinatorics*. Accepted, pending minor revisions, in April 2024.

[13] Marc Distel, Vida Dujmović, David Eppstein, Robert Hickingbotham, Gwenaël Joret, Pat Morin, Michał Seweryn, and David R. Wood. Product structure extension of the Alon–Seymour–Thomas theorem. *SIAM Journal on Discrete Mathematics*. Accepted, pending minor revisions, in March 2024.

[14] Prosenjit Bose, Vida Dujmović, Hussein Houdrouge, Mehrnoosh Javarsineh, and Pat Morin. Linear versus centred chromatic numbers. *Journal of Graph Theory*. Accepted, pending minor revisions, in March 2024.

[15] Paz Carmi, Matthew J. Katz, and Pat Morin. Stabbing pairwise intersecting disks by four points. *Discrete & Computational Geometry*, 70:1751–1784, 2023.

[16] Vida Dujmović, Robert Hickingbotham, Gwenaël Joret, Piotr Micek, Pat Morin, and David R. Wood. The excluded tree minor theorem revisited. *Combinatorics, Probability and Computing*. Accepted in July 2023.

[17] Louis Esperet, Gwenaël Joret, and Pat Morin. Sparse universal graphs for planarity. *Journal of the London Mathematical Society*, 108(4):1333–1357, 2023.

[18] Vida Dujmović, Pat Morin, and David R. Wood. Graph product structure for non-minor-closed classes. *Journal of Combinatorial Theory, Series B*, 162:34–67, 2023.

[19] Prosenjit Bose, Paz Carmi, Vida Dujmović, Saeed Mehrabi, Fabrizio Montecchiani, Pat Morin, and Luís Fernando Shulz Xavier da Silveira. Geodesic obstacle representation of graphs. *Computational Geometry: Theory and Applications*, 109, 2023. Preliminary version appeared at *ICALP 2018*.

[20] Vida Dujmović and Pat Morin. Dual circumference and collinear sets. *Discrete & Computational Geometry*, 69:26–50, 2023.

[21] Oswin Aichhozer, Manuel Borazzo, Prosenjit Bose, Jean Cardinal, Fabrizio Frati, Pat Morin, and Birgit Vogtenhuber. Drawing graphs as spanners. *Discrete & Computational Geometry*, 68:774–795, 2022. Preliminary version appeared at *WG 2021*.

[22] Prosenjit Bose, Vida Dujmović, Mehrnoosh Javarsineh, Pat Morin, and David R. Wood. Separating layered treewidth and row treewidth. *Discrete Mathematics & Theoretical Computer Science*, 24(1), 2022.

[23] Saman Bazarghani, Paz Carmi, Vida Dujmović, and Pat Morin. $2 \times n$ grids have unbounded anagram-free chromatic number. *Electronic Journal of Combinatorics*, 29(3), 2022.

[24] Vida Dujmović, Louis Esperet, Pat Morin, Bartosz Walczak, and David R. Wood. Clustered 3-colouring graphs of bounded degree. *Combinatorics, Probability and Computing*, 31:123–135, 2022.

[25] Vida Dujmović, David Eppstein, Robert Hickingbotham, Pat Morin, and David R. Wood. Stack-number is not bounded by queue-number. *Combinatorica*, 42:151–164, 2022.

[26] A. K. Abu-Affash, P. Carmi, A. Maheshwari, P. Morin, M. Smid, and S. Smorodinsky. Approximating maximum diameter-bounded subgraph in unit disk graphs. *Discrete & Computational Geometry*, 66:1401–1414, 2021. Preliminary version appears at *SoCG 2018*.

[27] Vida Dujmović, Louis Esperet, Cyril Gavoille, Gwenaël Joret, Piotr Micek, and Pat Morin. Adjacency labelling for planar graphs (and beyond). *Journal of the ACM*, 68(6):42:1–33, 2021. Preliminary version appeared at *FOCS 2020*.

[28] Vida Dujmović, Fabrizio Frati, Daniel Gonçalves, Pat Morin, and Günter Rote. Every collinear set in a planar graph is free. *Discrete & Computational Geometry*, 65:999–1027, 2021. Preliminary version appeared at *SODA 2019*.

[29] Pat Morin. A fast algorithm for the product structure of planar graphs. *Algorithmica*, 83(5):1544–1558, 2021.

[30] Vida Dujmović, Pat Morin, and Céline Yelle. Two results on layered pathwidth and linear layouts. *Journal of Graph Algorithms and Applications*, 25(1):43–57, 2021.

[31] Vida Dujmović, Gwenaël Joret, Piotr Micek, Pat Morin, Torsten Ueckerdt, and David R. Wood. Planar graphs have bounded queue-number. *Journal of the ACM*, 67(4):22:1–22:38, 2020. Preliminary version appeared at *FOCS 2019*.

[32] Vida Dujmović, David Eppstein, Gwenaël Joret, Pat Morin, and David R. Wood. Minor-closed graph classes with bounded layered pathwidth. *SIAM Journal on Discrete Mathematics*, 34(3):1693–1709, 2020. Accepted, pending minor revisions, in September 2019.

[33] Boris Aronov, Vida Dujmović, Pat Morin, Aurélien Ooms, and Luís Fernando Shulz Xavier da Silveira. More Turán-type theorems for triangles in convex point sets. *Electronic Journal of Combinatorics*, 26(1), 2019. P1.8 (26 pages).

[34] Luc Devroye, Vida Dujmović, Alan Frieze, Abbas Mehrabian, Pat Morin, and Bruce Reed. Notes on growing a tree in a graph. *Random Structures & Algorithms*, 55:290–312, 2019.

[35] Vida Dujmović, Gwenaël Joret, Pat Morin, Sergey Norin, and David R. Wood. Corrigendum to "Orthogonal tree decompositions of graphs". *SIAM Journal on Discrete Mathematics*, 32(4):3003–3004, 2018.

[36] Vida Dujmović, Gwenaël Joret, Pat Morin, Sergey Norin, and David R. Wood. Orthogonal tree decompositions of graphs. *SIAM Journal on Discrete Mathematics*, 32(2):839–863, 2018.

[37] Luc Devroye and Pat Morin. A note on interference in random networks. *Computational Geometry: Theory and Applications*, 67:2–10, 2018. Preliminary version appeared at CCCG 2012.

[38] Ahmad Biniaz, Prosenjit Bose, David Eppstein, Anil Maheshwari, Pat Morin, and Michiel Smid. Spanning trees in multipartite geometric graphs. *Algorithmica*, 80(11):3177–3191, November 2018.

[39] Vida Dujmović, Pat Morin, and David R. Wood. Layered separators in minor-closed graph classes with applications. *Journal of Combinatorial Theory, Series B*, 127:111–147, 2017. Preliminary version appeared at FOCS 2013.

[40] Pat Morin, Wolfgang Mulzer, and Tommy Reddad. Encoding arguments. *ACM Computing Surveys*, 50(3):46:1–36, 2017.

[41] Pat Morin and Sander Verdonschot. On the average number of edges in theta graphs. *Online Journal of Analytic Combinatorics*. Accepted in July 2016. Preliminary version appeared at *ANALCO 2014*.

[42] Prosenjit Bose, Vida Dujmović, Pat Morin, and Lucas Rioux-Maldague. New bounds for facial non-repetitive colouring. *Graphs and Combinatorics*, 33(4):817–832, 2017.

[43] Paul-Virak Khuong and Pat Morin. Array layouts for comparison-based searching. *ACM Journal of Experimental Algorithmics*, 22(1), 2017. Article No. 1.3 (39 pages).

[44] Prosenjit Bose, Rolf Fagerberg, John Howat, and Pat Morin. Biased predecessor search. *Algorithmica*, 76(4):1097–1105, 2016. Preliminary version appeared at *LATIN 2014*.

[45] Prosenjit Bose, Jean-Lou De Carufel, Pat Morin, André van Renssen, and Sander Verdonschot. Towards tight bounds on theta-graphs: More is not always better. *Theoretical Computer Science*, 616:70–93, 2016.

[46] Prosenjit Bose, Pat Morin, and André van Renssen. The price of order. *International Journal of Computational Geometry and Applications*, 26(3):135–149, 2016. Preliminary version appeared at *ISAAC 2014*.

[47] Greg Aloupis, Luis Barba, Paz Carmi, Vida Dujmović, Fabrizio Frati, and Pat Morin. Compatible connectivity augmentation of planar disconnected graphs. *Discrete & Computational Geometry*, 54(2):459–480, 2015. Preliminary version appeared at *SODA 2015*.

[48] Prosenjit Bose, Vida Dujmović, Nima Hoda, and Pat Morin. Visibility-monotonic polygon deflation. *Contributions to Discrete Mathematics*, 10(1):1–21, 2015. Preliminary version appears in *Proceedings of CCCG 2012*.

[49] Vida Dujmović and Pat Morin. On obstacle numbers. *Electronic Journal of Combinatorics*, 22(3), 2015. P3.1 (7 pages).

[50] Vida Dujmović, Pat Morin, and Michiel Smid. Average stretch factor: How low does it go? *Discrete & Computational Geometry*, 53(2):296–326, 2015.

[51] Prosenjit Bose, Pat Morin, André van Renssen, and Sander Verdonschot. The Θ_5 graph is a spanner. *Computational Geometry: Theory and Applications*, 48(2):108–119, 2015. Preliminary version appears in *Proceedings of the 39th International Workshop on Graph-Theoretic Concepts in Computer Science (WG 2013)*.

[52] Vida Dujmović, Pat Morin, and Adam Sheffer. Crossings in grid drawings. *Electronic Journal of Combinatorics*, 21(1), 2014. P1.41 (18 pages).

[53] Prosenjit Bose, Vida Dujmović, Pat Morin, and Michiel Smid. Robust geometric spanners. *SIAM Journal on Computing*, 42(4):1720–1736, 2013. Preliminary version appears in *Proceedings of the Twenty-Ninth ACM Symposium on Computational Geometry (SoCG 2013)*, ACM Press, 2013.

[54] Dan Chen and Pat Morin. Approximating majority depth. *Computational Geometry: Theory and Applications*, 46(9):1059–1064, 2013. Special issue of selected papers from *CCCG 2012*.

[55] Dan Chen, Pat Morin, and Uli Wagner. Absolute approximation of Tukey depth: Theory and experiments. *Computational Geometry: Theory and Applications*, 46(5):566–573, 2013. Special issue on Geometric Optimization.

[56] B. Ballinger, Nadia Benbernou, Prosenjit Bose, Mirela Damian, Erik D. Demaine, Vida Dujmović, Robin Flatland, Ferran Hurtado, John Iacono, Anna Lubiw, Pat Morin, Vera Sacristán, Diane Souvaine, and Ryuhei Uehara. Coverage with k-transmitters in the presence of obstacles. *Journal of Combinatorial Optimization*, 25(2):208–233, March 2013. Preliminary version appears in *Proceedings of the 4th Annual International Conference on Combinatorial Optimization and Applications (COCOA2010)*, Part II: 1-15, 2010.

[57] Dan Chen, Olivier Devillers, John Iacono, Stefan Langerman, and Pat Morin. Oja centers and centers of gravity. *Computational Geometry: Theory and Applications*, 46(2):140–147, 2013. Special issue of selected papers from *CCCG 2010*.

[58] Prosenjit Bose, Karim Douïeb, Vida Dujmović, John Howat, and Pat Morin. Fast local searches and updates in bounded universes. *Computational Geometry: Theory and Applications*, 46(2):181–189, 2013. Special issue of selected papers from *CCCG 2010*.

[59] David Charlton, Erik D. Demaine, Martin L. Demaine, Vida Dujmović, Pat Morin, and Ryuhei Uehara. Ghost chimneys. *International Journal of Computational Geometry and Applications*, 22(3):207–214, 2012. Preliminary version appears in *Proceedings of CCCG 2010*.

[60] Sébastien Collette, Vida Dujmović, John Iacono, Stefan Langerman, and Pat Morin. Entropy, triangulation, and point location in planar subdivisions. *ACM Transactions on Algorithms*, 8(3):29:1–29:18, 2012.

[61] Prosenjit Bose, Karim Douïeb, and Pat Morin. Skip lifts: A probabilistic alternative to red-black trees. *Journal of Discrete Algorithms*, 14:13–20, 2012. Special issue of selected papers from the *International Workshop on Combinatorial Algorithms (IWOCA 2010)*.

[62] Prosenjit Bose, John Howat, and Pat Morin. A distribution-sensitive dictionary with low space overhead. *Journal of Discrete Algorithms*, 10:140–145, 2012. Preliminary version appears in *Proceedings of the 16th International Workshop on Algorithms and Data Structures (WADS 2009)*, LNCS, pages 110-118. Springer, 2009.

[63] Prosenjit Bose, Eric Chen, Meng He, Anil Maheshwari, and Pat Morin. Succinct geometric indexes supporting point location. *ACM Transactions on Algorithms*, 8(2):10:1–10:26, April 2012. Preliminary version appeared in *Proceedings of the 20th ACM-SIAM Symposium on Discrete Algorithms (SODA 2009)*, pages 635-644, 2009.

[64] Dan Chen, Vida Dujmović, Luc Devroye, and Pat Morin. Memoryless routing in convex subdivisions: Random walks are optimal. *Computational Geometry: Theory and Applications*, 45(4):178–185, 2012. Preliminary version appears at EuroCG 2010.

[65] Vida Dujmović, John Howat, and Pat Morin. Biased range trees. *Algorithmica*, 62(1):21–37, 2012. Preliminary version appeared in *Proceedings of the 20th ACM-SIAM Symposium on Discrete Algorithms (SODA 2009)*, pages 486–495, 2009.

[66] Vida Dujmović, Joachim Gudmundsson, Pat Morin, and Thomas Wolle. Notes on large angle crossing graphs. *Chicago Journal of Theoretical Computer Science*, 2011. Special issue of selected papers from *Computing: The Australasian Theory Symposium (CATS 2010)*.

[67] Kevin Buchin, Maarten Löffler, Wolfgang Mulzer, and Pat Morin. Delaunay triangulation of imprecise points simplified and extended. *Algorithmica*, 61(3):674–693, 2011. Preliminary version appears in *Proceedings of the 16th International Workshop on Algorithms and Data Structures (WADS 2009)*, LNCS. Springer, 2009.

[68] Evangelos Kranakis, Danny Krizanc, and Pat Morin. Randomized rendez-vous with limited memory. *ACM Transactions on Algorithms*, 7(3):34:1–34:12, July 2011. Preliminary version appears in *Proceedings of the 8th Latin American Theoretical Informatics Symposium (LATIN2008)*, pages 605-616, 2008.

[69] Prosenjit Bose, Paz Carmi, Ferran Hurtado, and Pat Morin. A generalized Winternitz theorem. *Journal of Geometry*, 100:29–35, 2011.

[70] Joachim Gudmundsson, Pat Morin, and Michiel Smid. Algorithms for marketing-mix optimization. *Algorithmica*, 60(4), 2011.

[71] Prosenjit Bose, Sébastien Collette, Stefan Langerman, Anil Maheshwari, Pat Morin, and Michiel Smid. Sigma-local graphs. *Journal of Discrete Algorithms*, 8:15–23, 2010.

[72] Luc Devroye, Joachim Gudmundsson, and Pat Morin. On the expected maximum degree of Gabriel and Yao graphs. *Advances in Applied Probability*, 41(4):1123–1140, 2009.

[73] Prosenjit Bose, Vida Dujmović, Ferran Hurtado, Stefan Langerman, Pat Morin, and David R. Wood. A polynomial bound for untangling geometric planar graphs. *Discrete & Computational Geometry*, 42(2):570–585, 2009. Preliminary version appeared at *Topological and Geometric Graph Theory (TGGT 2008)*.

[74] Prosenjit Bose, Pat Morin, Michiel Smid, and Stefanie Wuhrer. Clamshell casting. *Algorithmica*, 55(4):666–702, 2009. Preliminary version appears in *Proceedings of CAD'07*.

[75] Prosenjit Bose, Vida Dujmović, Ferran Hurtado, and Pat Morin. Connectivity-preserving transformations of binary images. *Computer Vision and Image Understanding*, 113(10):1027–1104, October 2009.

[76] Rossen Atanassov, Prosenjit Bose, Matthieu Couture, Anil Maheshwari, Pat Morin, Michel Paquette, Michiel Smid, and Stefanie Wuhrer. Algorithms for optimal outlier removal. *Journal of Discrete Algorithms*, 7:239–248, 2009.

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Invited Talks

[171] Linear versus centered colouring. AlgoLUNCH seminar, May 2023.

[172] Proof of the clustered Hadwiger conjecture. Jagiellonian TCS seminar, March 2023.

[173] Linear colouring, centered colouring, treedepth, treewidth, and grids. Séminaire de Mathématiques Discrètes, March 2023.

[174] Free sets in planar graphs. Jagiellonian TCS seminar, March 2022.

[175] What is computer science? YSBC Software Technology Conference, May 2021.

[176] Growing a spanning tree of a graph. IMPA Probability and Combinatorics Seminar, February 2017.

[177] Turán-type theorems for triangles in convex point sets. Shonan-Village Meeting on Geometric Optimization, May 2016.

[178] Turán-type theorems for triangles in convex point sets. Courant Institute Geometry Seminar, April 2016.

[179] Encoding arguments. Probability, Combinatorics, and Geometry: Ninth Annual Workshop, April 2014.

[180] Interference! BIRS: Models of Sparse Graphs and Network Algorithms, February 2011. .

[181] On the expected maximum degree in Yao graphs. Dagstuhl Seminar on Geometric Networks, Metric Space Embeddings and Spatial Data Mining, November 2009.

[182] Randomized algorithms I, II, and III. New Zealand Institute of Mathematics and its Applications. Programme in Algorithmics, December 2008. .

[183] Distribution-sensitive point location. Sydney Theory Day, May 2008.

[184] Algorithms for zonoids. East Coast Combinatorial Conference (ECCC 2007), April 2007.

[185] Disctribution-sensitive point location in convex subdivisions. Algorithms Seminar, McGill University, December 2006.

[186] An optimal algorithm for d-variate zonoid depth. Algorithms Seminar, Université Libre de Bruxelles, October 2006.

[187] Recent results on data depth and outlier removal in 2d. Radcliffe Institute Seminar on Computational Aspects of Statistical Data Depth Analysis, Cambridge, MA, USA, July 2006.

[188] Centerpoint theorems for wedges. Japan Workshop on Discrete and Computational Geometry, Kanezawa, Japan, May 2005.

[189] Realizing partitions respecting full and partial order information. UPC Computational Geometry Seminar, May 2005.

[190] Computing the center of area of a convex polygon. DIMACS Workshop on Data Depth: Robust Multivariate Analysis, Computational Geometry and Applications, May 2003.

[191] Output-sensitive algorithms for computing nearest-neighbour decision boundaries. MITACS Workshop on Facility Location, Ottawa, Canada, May 2003.

[192] Computing the center of area of a convex polygon. MITACS Workshop on Facility Location, Vancouver, Canada, June 2002.

[193] Two recent results on flipping polygons. Special Session on Physical Knotting and Unknotting, AMS Spring Western Section Meeting, Las Vegas, Nevada, USA, April 2001.

[194] Classifying adult content on the internet. School of Computer Science, McGill University, June 2001.

[195] Online routing in geometric networks. SEMNET (SEMinar on NETworks), Department of Mathematics, Carleton University, November 2001.

[196] Progressive TINs: Algorithms and applications. Max-Planck-Institut für Informatik, August 1997.

[197] Course-grained parallel computing on heterogeneous systems. Oberseminar Blömer/Meyer auf der Heide: Theoretische Informatik 2. Universität-GH Paderborn, May 1997.

[198] Performance evaluation with Parasol. Real-Time and Distributed Systems Seminar. Department of Systems and Computer Engineering, Carleton University, October 1996.