

Luke Postle

Canada Research Chair in Graph Theory

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Education

- Dec 2012 **Ph.D. in Algorithms, Combinatorics and Optimization**, *Georgia Institute of Technology*, Atlanta, GA.
Thesis: *5-list-coloring graphs on surfaces*
Advisor: Robin Thomas
- May 2011 **Master's in Mathematics**, *Georgia Institute of Technology*, Atlanta, GA.
- May 2007 **B.S. in Mathematics and Physics**, *Gordon College*, Wenham, MA.
Summa cum Laude

Employment History

- Jul 2019 - Present **Associate Professor**, *University of Waterloo*, Waterloo, ON.
- May 2014 - Jun 2019 **Assistant Professor**, *University of Waterloo*, Waterloo, ON.
- Sep 2012 - May 2014 **Emory Mathematics Fellow**, *Emory University*, Atlanta, Georgia USA.

Recognitions

- Golden Jubilee Research Excellence Award**, Faculty of Mathematics, University of Waterloo, 2018 (1-2 awarded per year).
- Early Researcher Award**, Province of Ontario, 2016-2021 (\$190,000 value).
- Tier 2 Canada Research Chair**, NSERC, 2015-2020 (\$500,000 value).
- 2014 A.C.O. Outstanding Student Prize**, ACO Program, Georgia Institute of Technology, One awarded every other year; \$750 cash prize.
- Best Ph.D. Thesis Award**, Department of Mathematics, Georgia Institute of Technology, 2012 (one awarded per year).
- Top Ph.D. Student Award**, Department of Mathematics, Georgia Institute of Technology, 2010 (one awarded per year).
- National Science Foundation Graduate Research Fellowship**, National Science Foundation, 2009-2012 (\$120,000 value).
- Georgia Tech Institute Fellowship**, Georgia Institute of Technology, 2007-2011 (\$56,000 value).

Research Funding History

- 2019-2022 **Discovery Accelerator Supplement**, NSERC, \$120,000 (CAD).
- 2019-2024 **Discovery Grant**, NSERC, \$240,000 (CAD).

- 2019 **International Research Partnership Grant (co-PI)**, University of Waterloo, \$10,000 (CAD).
- 2018 **Waterloo-Bordeaux Travel Grant**, University of Bordeaux, \$15,000 (Euro).
- 2017 **Waterloo-Bordeaux Travel Grant**, University of Bordeaux, \$11,300 (Euro).
- 2016-2021 **Early Researcher Award**, Province of Ontario, \$190,000 (CAD).
- 2015-2020 **Tier 2 Canada Research Chair**, NSERC, \$500,000 (CAD).
- 2014-2019 **Discovery Grant**, NSERC, \$75,000 (CAD).
- 2014-2017 **Start-up Grant**, University of Waterloo, \$50,000 (CAD).
- 2009-2012 **Graduate Research Fellowship**, NSF, \$120,000 (USD).
- 2007-2011 **Georgia Tech Institute Fellowship**, Georgia Tech, \$56,000 (USD).

Publications: Submitted Articles

11. T. Kelly, L. Postle. On the Density of Critical Graphs with no Large Cliques, submitted. 27 pages. arXiv:1911.02661
10. M. Delcourt, L. Postle. Progress towards Nash-Williams' Conjecture on Triangle Decompositions, submitted. 28 pages. arXiv:1909.00514
9. Z. Dvorak, N. Morrison, J. Noel, S. Norin, L. Postle. Bounding the number of cycles in a graph in terms of its degree sequence. arXiv:1907.12091
8. L. Postle, E. Smith-Roberge. Density of C_7 -critical graphs, submitted. 36 pages. arXiv:1903.04453
7. T. Kelly, L. Postle. Fractional Coloring with Local Demands, submitted. 37 pages. arXiv:1811.11806
6. W. Gao, L. Postle. On the Minimal Edge Density of K_4 -free 6-critical graphs. 55 pages. arXiv:1811.02940
5. M. Delcourt, G. Perarnau, L. Postle. Rapid mixing of Glauber dynamics for colorings below Vigoda's $11/6$ threshold, submitted. 21 pages. arXiv:1804.04025
4. M. Bonamy, T. Perrett, L. Postle. Colouring graphs with sparse neighbourhoods: Bounds and applications. *Journal of Combinatorial Theory Ser. B*, revision submitted, 18 pages. arXiv:1810.06704
3. M. Bonamy, T. Kelly, P. Nelson, L. Postle. Bounding the Chromatic Number by a fraction of Maximum Degree for Graphs without Large Cliques. *Journal of Combinatorial Theory Ser. B*, submitted, 14 pages. arXiv:1803.01051
2. R. Kim, L. Postle. The List Linear Arboricity of Graphs, submitted, 17 pages. arXiv:1712.05006
1. L. Postle. 3-List-Coloring Graphs of Girth at least Five on Surfaces. *Journal of Combinatorial Theory Ser. B*, revision submitted, 33 pages. arXiv:1710.06898

Publications: Published Journal Articles

26. T. Kelly, L. Postle. A Local Epsilon Version of Reed's Conjecture. *Journal of Combinatorial Theory Ser. B.*, Volume 141, March 2020, pp. 181–222.
25. M. Faron, L. Postle. On the clique number of the square of a line graph and its relation to Ore-degree. *Journal of Graph Theory*, Volume 92 (3), November 2019, pp. 261–274.

24. Z. Dvorak, S. Norin, L. Postle. List coloring with requests. *Journal of Graph Theory*, Volume 92 (3), November 2019, pp. 191–206.
23. M. Bonamy, F. Kardos, T. Kelly, P. Nelson, L. Postle. The structure of binary matroids with no induced claw or Fano plane restriction. *Advances in Combinatorics*, October 2019, <https://doi.org/10.19086/aic.10256>
22. M. Merker, L. Postle. Bounded Diameter Arboricity. *Journal of Graph Theory*, Volume 90 (4), April 2019, pp. 629–641.
21. M. Bonamy, D. Cranston, L. Postle. Planar graphs of girth at least five are Square $(\Delta+2)$ -Choosable. *Journal of Combinatorial Theory Ser. B*, Volume 134, January 2019, pp. 218–238.
20. L. Postle, R. Thomas. Hyperbolic families and coloring graphs on surfaces. *Transactions of the American Mathematical Society Series B* 5 (2018), pp. 167–221.
19. M. Delcourt, L. Postle. Random 4-regular graphs have 3-star decompositions asymptotically almost surely. *European Journal of Combinatorics*, Volume 72, August 2018, pp. 97–111.
18. G. Chen, Y. Gao, R. Kim, L. Postle, S. Shan. Chromatic index determined by fractional chromatic index. *Journal of Combinatorial Theory Ser. B*, Volume 131, July 2018, pp. 85–108.
17. L. Postle. Characterizing 4-Critical Graphs of Ore-degree at Most Seven. *Journal of Combinatorial Theory Ser. B*, Volume 129, March 2018, pp. 107–147.
16. Z. Dvorak, L. Postle. Correspondence coloring and its application to list-coloring planar graphs without cycles of lengths 4 to 8. *Journal of Combinatorial Theory Ser. B*, Volume 129, March 2018, pp. 38–54.
15. T. Kelly, L. Postle. Exponentially Many 4-List-Colorings of Triangle-Free Graphs on Surfaces. *Journal of Graph Theory*, Volume 87 (2), February 2018, pp. 230–238.
14. L. Postle, R. Thomas. 5-List-Colouring Graphs on Surfaces III: One List of Size One and One List of Size Two, *Journal of Combinatorial Theory Ser. B*, Volume 128, January 2018, pp. 1–16.
13. N. Bowler, J. Carmesin, L. Postle. Reconstruction of infinite matroids from their 3-connected minors. *European Journal of Combinatorics* Volume 67, January 2018, pp. 126–144.
12. L. Postle, On the Minimum Number of Edges in Triangle-Free 5-Critical Graphs, *European Journal of Combinatorics*, Volume 66, December 2017, pp. 264–280.
11. C. Liu, L. Postle. On the Minimum Edge-Density of 4-Critical Graphs of Girth Five, *Journal of Graph Theory*, Volume 86, Issue 4, December 2017, pp. 387–405.
10. Z. Dvorak, L. Postle. Density of $5/2$ -critical graphs, *Combinatorica*, Volume 37 (5), October 2017, pp. 863–886.
9. Z. Dvorak, B. Lidicky, B. Mohar, L. Postle. 5-List-Coloring Planar Graphs with Distant Precolored Vertices. *Journal of Combinatorial Theory Ser. B*, Volume 122, January 2017, pp. 311–352.
8. D. Cranston, L. Postle, C. Xue, C. Yeger. Modified linear programming and class 0 bounds for graph pebbling, *Journal of Combinatorial Optimization*, July 2016, pp. 1–19.
7. L. Postle, R. Thomas. 5-List-Colouring Graphs on Surfaces II: A linear bound for critical graphs in a disk, *Journal of Combinatorial Theory Ser. B*, Volume 119, July 2016, pp. 42–65.
6. E. Aigner-Horev, R. Diestel, L. Postle. The Structure of 2-Separations of Infinite Matroids, *Journal of Combinatorial Theory, Ser. B*, Volume 116, January 2016, pp. 25–56.

5. L. Postle, R. Thomas. 5-List-Colouring Graphs on Surfaces I: Two with lists of size Two Theorem, *Journal of Combinatorial Theory Ser. B*, Volume 111, March 2015, pp. 234–241.
4. L. Postle. Pebbling Graphs of Fixed Diameter, *Journal of Graph Theory*, Volume 75, Issue 4, April 2014, pp. 302–310.
3. A. Asadi, Z. Dvorak, L. Postle, R. Thomas. Sub-Exponentially Many 3-Colourings of Triangle-Free Planar Graphs. *Journal of Combinatorial Theory, Ser. B*, Volume 103, Issue 6, November 2013, pp. 706–712.
2. L. Postle, N. Streib, C. Yerger. Pebbling Graphs of Diameter Three and Four. *Journal of Graph Theory*, Volume 72, Issue 4, April 2013, pp. 398–417.
1. N. Chenette, L. Postle, N. Streib, R. Thomas, C. Yerger. Five-Colouring Graphs on the Klein Bottle. *Journal of Combinatorial Theory, Ser. B*, Volume 102, Issue 5, September 2012, pp. 1067–1098.

Conference Publications: Published Articles

13. L. Postle, Linear-Time and Efficient Distributed Algorithms for List Coloring Graphs on Surfaces, 2019 IEEE 60th Annual Symposium on Foundations of Computer Science (FOCS), pp. 929–941.
12. L. Postle, E. Smith-Roberge, On the Density of C_7 -critical graphs, *Acta Mathematica Universitatis Comenianae*, 88(3), 1009–1016.
11. M. Bonamy, M. Delcourt, R. Lang, L. Postle, Asymptotically Good Local List Edge Colourings, accepted, *Acta Mathematica Universitatis Comenianae*, 88(3), 489–494.
10. S. Chen, M. Delcourt, A. Moitra, G. Perarnau, L. Postle. Improved Bounds for Randomly Sampling Colorings via Linear Programming. *Proceedings of the Thirteenth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2019)*, 2216–2234.
9. M. Delcourt, L. Postle. On Star Decomposition of Random Regular Graphs. *Electronic Notes in Discrete Mathematics*, Volume 61 (Eurocomb 2017 conference proceedings), pp. 339–342.
8. M. Delcourt, L. Postle. On the List Coloring Version of Reed’s Conjecture. *Electronic Notes in Discrete Mathematics*, Volume 61 (Eurocomb 2017 conference proceedings), pp. 343–349.
7. T. Kelly, L. Postle. A Local Epsilon Version of Reed’s Conjecture. *Electronic Notes in Discrete Mathematics*, Volume 61 (Eurocomb 2017 conference proceedings), pp. 719–725.
6. The Minimum Edge-Density of 5-Critical Triangle-Free Graphs, *Electronic Notes in Discrete Mathematics*, Volume 49, November 2015, 667–673.
5. Minor-Minimal Non-Projective Planar Graphs with an Internal 3-Separation (with A. Asadi and R. Thomas), *Electronic Notes in Discrete Mathematics* 38 (2011), 69–75.
4. Decomposing Infinite Matroids into their 3-Connected Minors (with E. Aigner- Horev and R. Diestel), *Electronic Notes in Discrete Mathematics* 38 (2011), 11–16.
3. Sub-Exponentially Many 3-Colourings of Triangle-Free Planar Graphs (with A. Asadi and R. Thomas), *Electronic Notes in Discrete Mathematics* 34 (2009), 81–87.
2. Pebbling Graphs of Diameter Three and Four (with N. Streib and C. Yerger), *Electronic Notes in Discrete Mathematics* 34 (2009), 21–28.
1. Six-critical graphs on the Klein bottle. Extended abstract (with N. Chenette, K. Kawarabayashi, D. Kral, J. Kyncl, B. Lidicky, N. Streib, R. Thomas and C. Yerger), *Electronic Notes in Discrete Mathematics* 31 (2008), 235–240.

Student Supervision

Current Supervisions

- 2019- Benjamin Moore, *PhD student*.
- 2018- Lise Turner, *PhD student*.
- 2018- Evelyne Smith-Roberge, *PhD student*.
- 2019- Patrick Kennedy, *Master's student*.
- 2018- Matthew Kroeker, *Master's student*.
- 2018- Richard Lang, *Postdoctoral Fellow*.

Previous Supervisions

- Fall 2019 Joseph Poremba, *Undergraduate Research Assistant*.
- 2015-2019 Tom Kelly, *Ph.D. student*. Graduated Spring 2019. Currently Postdoc at University of Birmingham.
- 2016-2018 Evelyne Smith-Roberge, *Master's student*. Graduated Spring 2018. Currently Ph.D. student at Univeristy of Waterloo.
- 2016-2018 Shayla Redlin, *Master's student*. Graduated Spring 2018. Currently Ph.D. student at Univeristy of Waterloo.
- Summer 2018 Joseph Poremba, *Undergraduate Research Assistant*.
- 2016-2017 Ringi Kim, *Postdoctoral Fellow*. Currently Postdoc at KAIST.
- Winter 2017 Sina Abbasi, *Undergraduate Research Assistant*.
- Jan 2015-Aug 2016 Daqi Chen, *Master's student*. Graduated Spring 2016. Currently Ph.D. student at Carnegie Mellon Univeristy.
- Summer 2016 Sam Yusim, *Undergraduate Research Assistant*. Currently Master's student at Univeristy of Waterloo.
- Summer 2016 Maxime Farron, *International Visiting Graduate Student* from ENS Lyon.
- Fall 2015 Marthe Bonamy, *Postdoctoral Fellow*. Currently CNRS position at University of Bordeaux.
- Fall 2015 Thomas Perrett, *International Visiting Ph.D. Student* from Technical University of Denmark. Ph.D. supervisor: Carsten Thomassen.
- Summer 2015 Wenbo Gao, *Undergraduate Research Assistant*. Currently Ph.D. student a Columbia University.
- 2013-2015 Victor Larsen, *Ph.D. student* at Emory University, cosupervised with Ron Gould. Graduated 2015. Currently Assistant Professor at Kennesaw State University.

Conference Organization

- Sep 2019 *WaterColor 2019*, organizer. Held at the Unviersity of Waterloo on September 23-27, 2019.
- July 2017 *Structure in Graphs and Matroids*, co-organizer. Held at the University of Waterloo on July 16-20, 2017.
- June 2017 *Graph Coloring 2-part Contributed Minisymposium*, co-organizer, at CANADAM 2017. Held at Ryerson University in June 2017.

- June 2017 *Structural Graph Theory Invited Minisymposium*, organizer, at CANADAM 2017. Held at Ryerson University in June 2017.
- Oct 2016 *New Trends in Graph Coloring*, co-organizer. Held at the Banff International Research Station on October 16-21, 2016.
- June 2015 *Structural Graph Theory Invited Minisymposium*, organizer, at CANADAM 2015. Held at the University of Saskatoon in June 2015.

Seminar Organization

- Fall 2018-Winter 2019 *Tutte Colloquium*, organizer, University of Waterloo.
- Fall 2016-Winter 2017 *Tutte Colloquium*, organizer, University of Waterloo.
- Fall 2015-Summer 2016 *Graph Theory Seminar*, organizer, University of Waterloo.
- 2008- *ACO Student Seminar*, co-founder, at Georgia Tech.

Referee Activity

Referee for Journal of Combinatorial Theory Series B, Journal of Graph Theory, Duke Mathematical Journal, SIAM Journal on Discrete Mathematics, Proceedings of the AMS and Proceedings of the LMS. (ADD HERE!!)

Committee Work

- Fall 2019- Summer 2019- C&O Hiring Committee.
- Summer 2019- C&O Tenure and Promotion Committee.
- Winter 2019- Math Faculty Student Appeals Committee.
- Fall 2017- Math Faculty Graduate Committee.
- Fall 2014- Summer 2016 C&O Graduate Committee.
- Fall 2015- Summer 2016 AHS Committee, Faculty of Math Representative.

Other University Service

- Fall 2019 Master's Thesis Reader for Courtney Horrocks.
- Summer 2019 Ph.D. Thesis Committee Member for Christopher van Bommel.
- Summer 2019 Ph.D. Thesis Committee Member for Alessandra Graf.

- Fall Organizer of the Tutte Colloquium at University of Waterloo.
- 2018-Winter
- 2019
- 2018 Graph Theory Comprehensive Examiner.
- Winter 2018 Ph.D. Thesis Committee Member for Alan Arroyo Guevara.
- Winter 2018 Master's Thesis Reader for Maxwell Levit.
- Summer Master's Thesis Reader for Amena Mahmoud.
- 2017
- Winter 2017 Coordinator for Math 239.
- Fall Organizer of the Tutte Colloquium at University of Waterloo.
- 2016-Winter
- 2017
- 2016 Graph Theory Comprehensive Examiner.
- Summer Master's Thesis Reader for Abhinnav Shantanam
- 2016
- Summer Master's Thesis Reader for Matthew Sullivan.
- 2016
- 2015 Graph Theory Comprehensive Examiner.

Invited Conference Presentations

26. *“Linear-Time and Efficient Distributed Algorithms for List Coloring Graphs on Surfaces”*, FOCS 2019, Baltimore, MD, USA, Nov 9-12, 2019.
25. *“Local and MAD Versions of Reed’s Conjecture”*, BCC 2019, Birmingham, UK, Jul 29-Aug 2, 2019. Invited to Mini-Symposium on Graph Coloring.
24. *“Local Versions of Coloring Theorems”*, Workshop on Graph Theory, Oberwolfach, Germany, Jan 7-11, 2019.
23. *“On the List Coloring Version of Reed’s Conjecture”*, EuroComb 2017, Vienna, Austria, Aug 28-Sep 1, 2017.
22. *“On a Local Version of Reed’s Conjecture”*, Geometric and Structural Graph Theory Workshop, Banff, AB, Canada, Aug 21-25, 2017.
21. *“List Coloring with Requests”*, CanaDAM 2017, Toronto, ON, Canada, Jun 12-16, 2017.
20. *“On the List Coloring Version of Reed’s Conjecture”*, ACO 25, Atlanta, GA, USA, Jan 9-11, 2017.
19. *“A Tutorial on The Potential Method”*, New Trends in Graph Coloring, BIRS, Banff, AB, Canada, Oct 16-21, 2016.
18. *“Bounded Diameter Arboricity”*, Southern Italian Workshop on Algorithms and Graphs, Bari, Italy, Sep 26-30, 2016.
17. *“On Reed’s Conjecture”*, International Workshop on Structure in Graphs and Matroids, Eindhoven, Netherlands, Jul 25-29, 2016.
16. *“Beyond Grotzsch’s Theorem: 3-colorings of Graphs of Girth Five on Surfaces”*, Directed Graphs Conference, Waterloo, Ontario, Canada, Jul 7-8, 2016.
15. *“Generalizations of Reed’s Conjecture”*, SIAM DM ’16, Atlanta, Georgia, USA, Jun 6-10, 2016.

Invited to Mini-Symposium on Graph Coloring.

14. “*On Reed’s Conjecture*”, AMS Sectional Meeting, Apr 15-17, 2016, Fargo, ND, USA. Invited to Session on Probabilistic and Extremal Combinatorics.
13. “*How Many Colors Can We Save*”, Workshop on Graph Theory, Oberwolfach, Germany, Jan 11-15, 2016.
12. “*Improved Bounds on Chromatic Number*”, CMS Winter 2015 Meeting, December 4, 2015, Montreal, QC, Canada. Invited to Graph Theory Session.
11. “*Bounded Diameter Arboricity*”, AMS Sectional Meeting, Oct 2-4 2015, Chicago, IL, USA. Invited to Session on Graph Theory, Hypergraphs and Set Systems.
10. “*The Minimum Edge-Density of 5-Critical Triangle-Free Graphs*”, AMS Sectional Meeting, April 18-19, 2015, Las Vegas, Nevada, USA. Invited to Session on Graph Theory.
9. “*The Structure of k -critical graphs with few edges*”, Atlanta Lecture Series XV, Georgia Institute of Technology, Atlanta, GA, USA, April 4-5, 2015. Hour-long talk.
8. “*Potential Technique in Graph Colouring*”, SIAM DM ’14, Minneapolis, Minnesota. Jun 16-19, 2014. Invited to Mini-symposium on Graph Colouring.
7. “*On the Minimum Density of 4-critical Graphs of Girth Five*”, Ottawa-Carleton Discrete Math Days, Ottawa, Canada. May 1, 2014. Hour-long talk.
6. “*Linear Isoperimetric Bounds in Graph Colouring*”, CanaDAM 2013, St. John’s, Newfoundland, Canada, Jun 10-13, 2013. Invited to Mini-symposium on Chromatic Graph Theory.
5. “*Linear Isoperimetric Bounds in Graph Colouring*”, Workshop on Graph Theory, Oberwolfach, Germany, Jan 14-18 2013. Hour-long talk.
4. “*Linear Bounds in Graph Colouring: A Unifying Theory*”, Atlanta Lecture Series VII, Emory University, Atlanta, GA, USA, Nov 3-4 2012.
3. “*5-List-Colouring Graphs on Surfaces*”, Graph Theory at Georgia Tech, Georgia Tech, Atlanta, GA, USA, May 7-11 2012.
2. “*Number of Vertices of a 6-Critical Graph is Linear in Genus*”, SIAM DM ’10, Jun 14-17, 2010, Austin, TX, USA. Invited to Mini-symposium on Structural Graph Theory.
1. “*Sub-Exponentially Many 3-Colourings of Triangle-Free Planar Graphs*”, AMS Sectional Meeting, Oct 30-Nov 1, 2009, Boca Raton, FL, USA. Invited to Session on Graph Theory.

Other Conference Presentations

18. “*Linear-time Algorithms for List-Coloring Graphs on Surfaces*”, Barbados Graph Theory Workshop, Holetown, Barbados, Apr 5-12, 2019.
17. “*Mixing Time of Glauber Dynamics*”, Barbados Graph Theory Workshop, Holetown, Barbados, Apr 20-Apr 27, 2018.
16. “*List-Colouring and Reed’s Conjecture*”, Barbados Graph Theory Workshop, Holetown, Barbados, Mar 24-Mar 31, 2017.
15. “*Progress on Reed’s χ -delta-omega conjecture*”, Barbados Graph Theory Workshop, Holetown, Barbados, Mar 25-Apr 1, 2016.
14. “*5-Critical Triangle-Free Graphs*”, EuroComb 15, Bergen, Norway, Aug 31-Sep 4, 2015.

13. “*On the structure of k -critical graphs with few edges*”, Connections in Discrete Mathematics, Simon Fraser University, BC, Canada, Jun 15-19, 2015.
12. “*Colouring and MAD*”, Barbados Graph Theory Workshop, Holetown, Barbados. Mar 27-Apr 3, 2015.
11. “*4-Critical graphs of girth five have more than $5n/3$ edges*”, ICGT '14, Grenoble, France. Jun 30-July 4, 2014.
10. “*Edge-critical graphs with few edges and Ore’s conjecture*”, Barbados Graph Theory Workshop, Holetown, Barbados. Mar 28-Apr 4, 2014.
9. “*3-Coloring and 3-List-Colouring Graphs of girth at least five*”, Bertinoro Workshop on Algorithms and Graphs, Bertinoro, Italy. Dec 15-20, 2013.
8. “*3-Coloring and 3-List-Colouring Graphs of girth at least five*”, Workshop on Graph Minors, Banff, Alberta, Canada. Sep 29-Oct 4, 2013.
7. “*5-List-Colouring Graphs on Surfaces*”, Third Workshop on Graphs and Matroids, Jul 29-Aug 3, 2012, Maastricht, Netherlands.
6. “*Minor-Minimal Non-Projective Planar Graphs with an Internal 3-Separation*”, EuroComb '11, Aug 29-Sep 2, 2011, Budapest, Hungary. Selected by Program Committee.
5. “*Decomposing Infinite Matroids into their 3-Connected Minors*”, EuroComb '11, Aug 29-Sep 2, 2011, Budapest, Hungary. Selected by Program Committee.
4. “*Number of Vertices of a 6-Critical Graph is Linear in Genus*”, Second Workshop on Graphs and Matroids, Aug 1-7, 2010, Maastricht, Netherlands.
3. “*Sub-Exponentially Many 3-Colourings of Triangle-Free Planar Graphs*”, EuroComb '09, Sep 7-11, 2009, Bordeaux, France. Selected by Program Committee.
2. “*Five-Colouring Graphs on the Klein Bottle*”, Topological and Geometric Graph Theory, May 19-23, 2008, Paris, France. Selected by Program Committee.
1. “*Five-Coloring Graphs on the Klein Bottle*”, 21st Cumberland Conference, May 15-17, 2008, Vanderbilt University, Nashville, TN, USA.

■ Seminar Presentations

44. Ryerson University, Mathematics Department Colloquium, November 2019.
43. Center for Computing Science, Colloquium, November 2019.
42. Carnegie Mellon University, ACO Seminar, October 2019.
41. University of Waterloo, Tutte Colloquium, March 2019.
40. University of Waterloo, Undergraduate Research Seminar, June 2018.
39. University of Warwick, November 2017.
38. University of Birmingham, November 2017.
37. Oxford University, November 2017.
36. University of Bordeaux, Graph Theory Seminar, September 2017.
35. University of Waterloo, Graph Theory Seminar, April 2017.

34. University of Waterloo, Tutte Colloquium, March 2017.
33. University of Illinois at Urbana-Champaign, Combinatorics Seminar, Sep 2016.
32. University of Waterloo, Undergraduate Research Seminar, May 2016.
31. University of Waterloo, Graph Theory Seminar, May 2016.
30. Iowa State University, Discrete Mathematics Seminar, April 2016.
29. Georgia Tech, Graph Theory Seminar, March 2016.
28. University of Waterloo, Graph Theory Seminar, February 2016.
27. University of Waterloo, Grad Student Seminar, November 2015.
26. University of Waterloo, Tutte Colloquium, November 2015.
25. Denmark Technical University, Graph Theory Seminar, April 2015.
24. Georgia Tech, Graph Theory Seminar, April 2015.
23. Princeton University, Discrete Mathematics Seminar, February 2015.
22. University of Waterloo, Graph Theory Seminar, October 2014.
21. Emory University, Combinatorics Seminar, October 2013.
20. University of Waterloo, Tutte Colloquium, September 2013.
19. University of Hamburg, Graph Theory Seminar, June 2013.
18. Clemson University, Algebra and Discrete Math Seminar, April 2013.
17. Louisiana State University, Combinatorics Seminar, March 2013.
16. University of Waterloo, Tutte Colloquium, January 2013.
15. Georgia Tech, Graph Theory Seminar, January 2013.
14. Georgia Tech, ACO Student Seminar, April 2012.
13. Emory University, Combinatorics Seminar, January 2012.
12. University of Illinois at Chicago, Combinatorics Seminar, October 2011.
11. University of Illinois at Urbana-Champaign, Combinatorics Seminar, October 2011.
10. Vanderbilt University, Combinatorics Seminar, October 2011.
9. Masaryk University (Brno, Czech Republic), Computer Science Seminar, May 2011.
8. Charles University (Prague, Czech Republic), Combinatorics Seminar, May 2011.
7. Georgia Tech, Graph Theory Seminar, February 2011.
6. Georgia Tech, Combinatorics Seminar, January 2011.
5. Georgia Tech, Graph Theory Seminar, September 30, 2010.
4. Georgia Tech, Graph Theory Seminar, September 2, 2010.
3. Charles University (Prague, Czech Republic), Combinatorics Seminar, November 2009.

2. Georgia Tech, ACO Student Seminar, April 2009.
1. Georgia Tech, Graph Theory Seminar, September 2008.

Teaching Experience

Courses Taught at University of Waterloo

11. CO 749, Graph Coloring, Winter 2020.
10. CO 749, Graph Decompositions, Winter 2019.
9. Math 239, Introduction to Combinatorics, Fall 2018.
8. CO 749, Graph Coloring, Winter 2018.
7. Math 239, Introduction to Combinatorics, Winter 2017.
6. CO 342, Graph Theory, Fall 2016.
5. CO 342, Graph Theory, Spring 2016.
4. Math 239, Introduction to Combinatorics, Winter 2016.
3. CO 642, Graph Theory, Fall 2015.
2. CO 749, Advanced Techniques in Graph Coloring, Winter 2015.
1. Math 239, Introduction to Combinatorics, Fall 2014.

Courses Taught at Emory University

- Calculus I for Life Science Majors: Fall 2012, Spring 2014.
- Calculus III, Multivariable: Spring 2013 (2 sections), Fall 2014, Spring 2014.