

# Ryan R. Martin

## Curriculum Vitae

411 Morrill Road, 428 Carver Hall  
 Department of Mathematics, Iowa State U.  
 Ames, IA 50011-2064

Email: [rymartin@iastate.edu](mailto:rymartin@iastate.edu)  
 URL: <http://rymartin.name>  
 Phone: (515) 294-1282

Employment	Publications	Conference	Colloquia	Teaching	Service	Awards
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**Research** Extremal graph theory; extremal poset theory; probabilistic combinatorics.

**Education** *Rutgers University* Ph.D. in Mathematics, October 2000  
 Advisor: Prof. Endre Szemerédi.  
 Dissertation: *On graph packing, induced subgraphs and intersecting hypergraphs*  
*University of Delaware* B.S., Summa cum laude, June 1995  
 Major: Mathematical Sciences; minor: Computer and Information Sciences.  
 Degree with Distinction, Thesis advisors: Felix Lazebnik, Wenbo Li.  
 Thesis title: *Minimum expected time of random walks on rooted trees*

**Employment History**

Dates	Title	Location
2022 - 2025	Scott Hanna Professor	Iowa State University
2014 - present	Professor	Iowa State University
2009 - 2014	Associate Professor	Iowa State University
2003 - 2009	Assistant Professor	Iowa State University
2000 - 2003	Zeev Nehari Visiting Asst. Professor	Carnegie Mellon University
1995 - 2000	Graduate/Teaching Assistant	Rutgers University

**Editor-in-Chief** *ORDER: A journal on the theory of ordered sets and its applications*, published by Springer, January 2016-Present.

**Selected Financial Support** Distinguished Visiting Researcher of the Hungarian Academy of Sciences, HUN-REN Alfréd Rényi Institute of Mathematics, July 2023 to December 2023 (13,274,100 HUF).  
 Deutscher Akademischer Austauschdienst (DAAD), Program 57442043, Karlsruhe Institute of Technology, January 2020 to April 2020 (6,450 €).  
 Fulbright scholar, Alfréd Rényi Institute for Mathematics and Budapest Semesters in Mathematics, September 2019 to December 2019 (\$12,300 + 520,000 HUF).  
 National Science Foundation (NSF) Grant

- (Co-PI, with PI L. Hogben and co-PIs B. Lidický, H. Schenck, M. Young): RTG: Combinatorics, computation and applications at ISU (DMS-1839918), May 2019 to May 2024 (\$1,500,000, 20% share).
- (Co-PI, with PI M. Axenovich): Extremal problems on hereditary properties and partitions of combinatorial structures (DMS-0901008), August 2009 to July 2012 (\$174,993, 50% share).

Simons Foundation: Collaboration Grants for Mathematicians:

- Extremal combinatorics on graphs and posets (#709641), 2020-2025 (\$42,000).
- Extremal tiling and density problems in graphs and hypergraphs (#353292), 2015-2020 (\$35,000).

National Security Agency (NSA) Grants (PI):

- H98230-13-1-0226: 2012-2014 (Standard Grant, \$57,266).
- H98230-08-1-0015: 2008-2010 (Young Investigator Grant, \$30,000).
- H98230-05-1-0257: 2005-2007 (Young Investigator Grant, \$30,000).

# Ryan R. Martin

## Publications

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IN ACROBAT READER, CLICK THE TITLE TO SEE THE PAPER OR [ARXIV] TO READ THE PREPRINT.

### Submitted Publications:

- [75] R.R. Martin and B. Patkós, [On a generalization of a result of Kleitman](#), submitted. (12pp.) [arXiv]
- [74] R.R. Martin and N. Veldt, [Induced saturation of the poset  \$2C\_2\$](#) , submitted. (11pp.) [arXiv]
- [73] R.R. Martin, M. Ruszinkó and G.N. Sárközy, [B-colorings of planar and outerplanar graphs](#), submitted. (15pp.) [arXiv]
- [72] R.R. Martin and N. Veldt, [Saturation of  \$k\$ -chains in the Boolean lattice](#), submitted. (10pp.) [arXiv]
- [71] E. Gyóri, R.R. Martin, A. Paulos, C. Tompkins, and K. Varga, [On the rainbow planar Turán number of paths](#), submitted. (22pp.) [arXiv]

### Publications to appear:

- [70] E. Heath, R.R. Martin, and C. Wells, [The maximum number of odd cycles in a planar graph](#), *J. Graph Theory*, to appear. (33pp.) [arXiv]
- [69] R.R. Martin and B. Patkós, [A note on the Erdős matching conjecture](#), *Studia Sci. Math. Hungar.*, to appear. (5pp.) [arXiv]
- [68] M. Axenovich, R.R. Martin, and C. Winter, [On graphs embeddable in a layer of a hypercube and their extremal numbers](#), *Ann. Comb.* (2024) published online. (21pp.)  
DOI:10.1007/s00026-024-00705-2 [arXiv]

### Journal Publications:

- [67] A. Gyárfás, R.R. Martin, M. Ruszinkó and G.N. Sárközy, [Proper colorings of planar graphs with rainbow  \$C\_4\$ -s](#), *J. Graph Theory* 107 (2024), no. 4, 833–846. DOI:10.1002/jgt.23163 [arXiv]
- [66] M. Bóna and R.R. Martin, [The endomorphism conjecture for graded posets of width 4](#), *Studia Sci. Math. Hungar.* 60 (2023), no. 2-3, 133–142. DOI:10.1556/012.2023.01540 [arXiv]
- [65] C. Cox and R.R. Martin, [The maximum number of 10- and 12-cycles in a planar graph](#), *Discrete Math.* 346 (2023), no. 2, Paper No. 113245, 7 pp. DOI:10.1016/j.disc.2022.113245 [arXiv]
- [64] C. Cox and R.R. Martin, [Counting paths, cycles and blow-ups in planar graphs](#), *J. Graph Theory* 101 (2022), no. 3, 521–558. DOI:10.1002/jgt.22838 [arXiv]  
\*Top 10% of papers at *J. Graph Theory* in 2022 (number of downloads within 12 months of publication).
- [63] D. Ghosh, E. Gyóri, R.R. Martin, A. Paulos, and C. Xiao, [Planar Turán number of the 6-cycle](#), *SIAM J. Discrete Math.* 36 (2022), no. 3, 2028–2050. DOI:10.1137/21M140657X [arXiv]
- [62] A. Blumenthal, B. Lidický, R.R. Martin, S. Norin, F. Pfender and J. Volec, [Counterexamples to a conjecture of Harris on Hall ratio](#), *SIAM J. Discrete Math.* 36 (2022), no. 3, 1678–1686. DOI:10.1137/18M1229420 [arXiv]
- [61] J. Balogh, R.R. Martin, D.T. Nagy, and B. Patkós, [On generalized Turán results in height two posets](#), *SIAM J. Discrete Math.*, 36 (2022), no. 2, 1483–1495. DOI:10.1137/21M1457254 [arXiv]

# Ryan R. Martin

## Publications (2)

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### Journal Publications (cont.):

- [60] E. Carlson, R.R. Martin, B. Peng, and M. Ruzinkó, Large monochromatic components of small diameter, *J. Graph Theory* 99 (2022), no. 2, 247–250. DOI:10.1002/jgt.22739 [arXiv]
- [59] A. London, R.R. Martin, and A. Pluhár, Graph clustering via generalized colorings, *Theoret. Comput. Sci.* 918 (2022), 94–104. DOI:10.1016/j.tcs.2022.03.023 [arXiv]
- [58] R.R. Martin and A.W.N. Riasanovsky, On the edit distance function of the random graph, *Combin. Probab. Comput.* 31 (2022), no. 2, 345–367. DOI:10.1017/S0963548321000353 [arXiv]
- [57] C. Cox, R.R. Martin and D. McGinnis, Accumulation points of the edit distance function, *Discrete Math.* 345 (2022), no. 7, Paper No. 112857, 17pp. DOI:10.1016/j.disc.2022.112857 [arXiv]
- [56] L. DeBiasio, R.R. Martin, and T. Molla, Powers of Hamiltonian cycles in multipartite graphs, *Discrete Math.* 345 (2022), no. 4, Paper No. 112747, 17pp. DOI:10.1016/j.disc.2021.112747 [arXiv]
- [55] M. Axenovich and R.R. Martin, Splits with forbidden subgraphs, *Discrete Math.* 345 (2022), no. 2, Paper No. 112689, 8pp. DOI:10.1016/j.disc.2021.112689 [arXiv]
- [54] B. Keszegh, N. Lemons, R.R. Martin, D. Pálvölgyi, and B. Patkós, Induced and non-induced poset saturation problems, *J. Combin. Theory Ser. A* 184 (2021), Paper No. 105497, 20pp. DOI:10.1016/j.jcta.2021.105497 [arXiv]
- [53] D. Ghosh, E. Győri, R.R. Martin, A. Paulos, N. Salia, C. Xiao, and O. Zamora, The maximum number of paths of length four in a planar graph, *Discrete Math.* 344 (2021), no. 5, Paper No. 112317, 6pp. DOI:10.1016/j.disc.2021.112317 [arXiv]
- [52] R.R. Martin, H.C. Smith, and S. Walker, Improved bounds for induced poset saturation, *Electron. J. Combin.*, **27**(2) (2020), Research Paper P2.31. (9pp.) DOI:10.37236/8949 [arXiv]
- [51] A. Bernshteyn, O. Khormali, R.R. Martin, J. Rollin, D. Rorabaugh, S. Shan, and A. Uzzell, Regular colorings in regular graphs, *Discuss. Math. Graph Theory* 40 (2020), no. 3, 795–806. DOI:10.7151/dmgt.2149 [arXiv]
- [50] M. Dairyko, M. Ferrara, B. Lidický, R.R. Martin, F. Pfender, and A. Uzzell, Ore and Chvátal-type degree conditions for bootstrap percolation from small sets, *J. Graph Theory* 94 (2020), no. 2, 252–266. DOI:10.1002/jgt.22517 [arXiv]
- [49] R.R. Martin, A. Methuku, A. Uzzell, and S. Walker, A simple proof for a forbidden subposet problem, *Electron. J. Combin.* 27 (2020), no. 1, Paper No. 1.31, 9pp. DOI:10.37236/7680 [arXiv]
- [48] J. Kim, R.R. Martin, T. Masařík, W. Shull, H.C. Smith, A. Uzzell, and Z. Wang, On difference graphs and the local dimension of posets, *European J. Combin.* 86 (2020), 103074, 13pp. DOI:10.1016/j.ejc.2019.103074 [arXiv]

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## Publications (3)

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### Journal Publications (cont.):

- [47] Zh. Berikkyzy, R.R. Martin, and C. Peck, On the edit distance of powers of cycles, *Discrete Math.* 342 (2019), no. 10, 2804–2817. DOI:10.1016/j.disc.2018.09.018 [arXiv]
- [46] M. Axenovich, J. Goldwasser, R. Hansen, B. Lidický, R.R. Martin, D. Offner, J. Talbot, and M. Young, Polychromatic colorings on the integers, *Integers* 19 (2019), Paper No. A18, 17pp. [arXiv]
- [45] C. Erbes, M. Ferrara, R.R. Martin, and P.S. Wenger, On the approximate shape of degree sequences that are not potentially  $H$ -graphic, *J. Comb.* 10 (2019), no. 2, 339–363. DOI:10.4310/JOC.2019.v10.n2.a9 [arXiv]
- [44] J. Goldwasser, B. Lidický, R.R. Martin, D. Offner, J. Talbot, and M. Young, Polychromatic colorings on the hypercube, *J. Comb.* 9 (2018), no. 4, 631–657. DOI:10.4310/JOC.2018.v9.n4.a4 [arXiv]
- [43] C. Erbes, M. Ferrara, R.R. Martin, and P.S. Wenger, Stability of the potential function, *SIAM J. Discrete Math.* 32 (2018), no. 3, 2313–2331. DOI:10.1137/16M1109643 [arXiv]
- [42] K. Hogenson, R.R. Martin, and Y. Zhao, Tiling tripartite graphs with 3-colorable graphs: The extreme case, *Graphs Combin.* 34 (2018), no. 5, 1049–1075. DOI:10.1007/s00373-018-1929-1 [arXiv]
- [41] M. Axenovich, J. Goldwasser, R. Hansen, B. Lidický, R.R. Martin, D. Offner, J. Talbot, and M. Young, Polychromatic colorings of complete graphs with respect to 1-,2-factors and Hamiltonian cycles, *J. Graph Theory* 87 (2018), no. 4, 660–671. DOI:10.1002/jgt.22180 [arXiv]
- [40] M. Ferrara, B. Kay, L. Kramer, R.R. Martin, B. Reiniger, H. Smith, and E. Sullivan, The saturation number of induced subposets of the Boolean lattice, *Discrete Math.* 340 (2017), no. 10, 2479–2487. DOI:10.1016/j.disc.2017.06.010 [arXiv]
- [39] R.R. Martin, R. Mycroft, and J. Skokan, An asymptotic multipartite Kühn-Osthus theorem, *SIAM J. Discrete Math.* 31 (2017), no. 3, 1498–1513. DOI:10.1137/16M1070621 [arXiv]
- [38] R.R. Martin and J. Skokan, Asymptotic multipartite version of the Alon-Yuster theorem, *J. Combin. Theory Ser. B* 127 (2017), no. 3, 32–52. DOI:10.1016/j.jctb.2017.05.004 [arXiv]
- [37] R.R. Martin and S. Walker, A note on the size of  $N$ -free families, *European J. Math.* 3(2) (2017), 429–432. DOI:10.1007/s40879-017-0139-3 [arXiv]
- [36] J. Balogh, B. Csaba, R.R. Martin, and A. Pluhár, On the path separation number of graphs, *Discrete Appl. Math.* 213 (2016), 26–33. DOI:10.1016/j.dam.2016.05.022 [arXiv]
- [35] S. Butler, C. Erickson, L. Hogben, K. Hogenson, L. Kramer, R.L. Kramer, J.C.-H. Lin, R.R. Martin, D. Stolee, N. Warnberg, and M. Young, Rainbow arithmetic progressions, *J. Comb.* 7 (2016), no. 4, 595–626. DOI:10.4310/JOC.2016.v7.n4.a3 [arXiv]
- [34] R.R. Martin, On the computation of edit distance functions, *Discrete Math.* 338 (2015), no. 2, 291–305. DOI:10.1016/j.disc.2014.09.005 [arXiv]
- [33] R.R. Martin and T. McKay, On the edit distance from  $K_{2,t}$ -free graphs, *J. Graph Theory* 77 (2014), no. 2, 117–143. DOI:10.1002/jgt.21777 [arXiv extended version]
- [32] M. Axenovich, R.R. Martin, and T. Ueckerdt, Twins in graphs, *European J. Combin.* 39 (2014), no. 2, 188–197. DOI:10.1016/j.ejc.2014.01.007 [arXiv]

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## Publications (4)

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### Journal publications (cont.):

- [31] R.R. Martin, The edit distance function and symmetrization, *Electron. J. Combin.* 20 (2013), no. 3, Paper 26, 25pp. DOI:10.37236/2262 [arXiv]
- [30] L. Kramer, R.R. Martin, and M. Young, On diamond-free subsets of the Boolean lattice, *J. Combin. Theory Ser. A* 120 (2013), no. 3, 545–560. DOI:10.1016/j.jcta.2012.11.002 [arXiv]
- [29] R.R. Martin and J.J. Smith, Induced saturation number, *Discrete Math.* 312 (2012), no. 21 3096–3106. DOI:10.1016/j.disc.2012.06.015 [arXiv]
- [28] A. Csernenszky, R.R. Martin, and A. Pluhár, On the complexity of Chooser-Picker positional games, *Integers* 11 (2011), Paper No. G02, 16pp. DOI:10.1515/integ.2011.113 [arXiv]  
**N.b.: Listed in MathSciNet as Vol. 12, (2012), no. 3, 427–444.**
- [27] M. Axenovich, J. Manske, and R.R. Martin,  $Q_2$ -free families in the Boolean lattice, *Order* 29 (2012), no. 1, 177–191. DOI:10.1007/s11083-012-9263-3 [arXiv]
- [26] M. Axenovich and R.R. Martin, Multicolor and directed edit distance, *J. Comb.* 2 (2011), no. 4, 525–556. DOI:10.4310/JOC.2011.v2.n4.a4 [arXiv]
- [25] R.R. Martin and B. Stanton, Lower bounds for identifying codes in some infinite grids, *Electron. J. Combin.* 17 (2010), no. 1, Research Paper 122, 16pp. DOI:10.37236/394 [arXiv]
- [24] T. Hall, L. Hogben, R.R. Martin, and B. Shader, Expected values of parameters associated with the minimum rank of a graph, *Linear Algebra Appl.* 433 (2010), no. 1, 101–117. DOI:10.1016/j.laa.2010.01.036 [arXiv]
- [23] J. Balogh, R.R. Martin, and A. Pluhár, The diameter game, *Random Structures Algorithms* 35 (2009), no. 3, 369–389. DOI:10.1002/rsa.20280 [arXiv]
- [22] R.R. Martin and Y. Zhao, Tiling tripartite graphs with 3-colorable graphs, *Electron. J. Combin.* 16 (2009), no. 1, Research Paper 109. (16pp.) DOI:10.37236/198 [arXiv]
- [21] J. Balogh and R.R. Martin, On Avoider-Enforcer games, *SIAM J. Discrete Math.* 23 (2009), no. 2, 901–908. DOI:10.1137/080721716 [arXiv]
- [20] R.R. Martin and E. Szemerédi, Quadripartite version of the Hajnal-Szemerédi theorem, *Discrete Math.* 308 (2008), no. 19, 4337–4360. DOI:10.1016/j.disc.2007.08.019 [Local Offprint]
- [19] M. Axenovich, A. Kézdy, and R.R. Martin, On the editing distance of graphs, *J. Graph Theory* 58 (2008), no. 2, 123–138. DOI:10.1002/jgt.20296 [arXiv]
- [18] J. Balogh and R.R. Martin, Edit distance and its computation, *Electron. J. Combin.* 15 (2008), no. 1, Research Paper 20, 27pp. DOI:10.37236/744 [arXiv]
- [17] M. Axenovich and R.R. Martin, Avoiding rainbow induced subgraphs in vertex-colorings, *Electron. J. Combin.* 15 (2008), no. 1, Research Paper 12, 23pp. DOI:10.37236/744 [arXiv]

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## Publications (5)

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### Journal publications (cont.):

- [16] M. Axenovich and R.R. Martin, On weighted Ramsey numbers, *Australas. J. Combin.* 38 (2007), 179–194. [arXiv]
- [15] A. Frieze, R.R. Martin, J. Moncel, M. Ruzinkó, and C. Smyth, Codes identifying sets of vertices in random networks, *Discrete Math.* **307**(10) (2007), 1094–1107.  
DOI: 10.1016/j.disc.2006.07.041 [Local Offprint]
- [14] T. Bohman, A. Frieze, R.R. Martin, M. Ruzinkó, and C. Smyth, Randomly generated intersecting hypergraphs II, *Random Structures Algorithms* 30 (2007), no. 1, 17–34.  
DOI:10.1002/rsa.20152 [arXiv]
- [13] M. Axenovich and R.R. Martin, On the strong chromatic number of graphs, *SIAM J. Discrete Math.* 20 (2006), no. 3, 741–747.  
DOI:10.1137/050633056 [arXiv]
- [12] M. Axenovich and R.R. Martin, Sub-Ramsey numbers for arithmetic progressions, *Graphs Combin.* 22 (2006), no. 3, 297–309.  
DOI:10.1007/s00373-006-0663-2 [arXiv]
- [11] M. Axenovich and R.R. Martin, Avoiding patterns in matrices via a small number of changes, *SIAM J. Discrete Math.* 20 (2006), no. 1, 49–54.  
DOI:10.1137/S0895480104445150 [arXiv]
- [10] M. Axenovich and R.R. Martin, A note on short cycles in a hypercube, *Discrete Math.* 306 (2006), no. 18, 2212–2218.  
DOI:10.1016/j.disc.2006.05.008 [arXiv]
- [9] R.R. Martin, A note on a conjecture of Gyárfás, *Ars Combin.* **79** (2006), 311–317.  
[Volume Listing] [arXiv]
- [8] T. Bohman, A. Frieze, M. Krivelevich, and R.R. Martin, Adding random edges to dense graphs, *Random Structures Algorithms* 24 (2004), no. 2, 105–117.  
DOI:10.1002/rsa.10112 [arXiv]
- [7] A. Frieze, M. Krivelevich, and R.R. Martin, The emergence of a giant component in random subgraphs of pseudo-random graphs, *Random Structures Algorithms* 24 (2004), no. 1, 42–50.  
DOI:10.1002/rsa.10100 [arXiv]
- [6] T. Bohman, C. Cooper, A. Frieze, R.R. Martin, and M. Ruzinkó, On randomly generated intersecting hypergraphs, *Electron. J. Combin.* 10 (2003), Research Paper 29, 10pp. DOI:10.37236/1722 [arXiv]
- [5] T. Bohman and R.R. Martin, A note on  $G$ -intersecting families, *Discrete Math.* 260 (2003), no. 1-3, 183–188.  
DOI:10.1016/s0012-365x(02)00761-6 [arXiv]
- [4] T. Bohman, A. Frieze, and R.R. Martin, How many random edges make a dense graph hamiltonian?, *Random Structures Algorithms* 22 (2003), no. 1, 33–42.  
DOI:10.1007/bf02579348 [arXiv]
- [3] Cs. Magyar and R.R. Martin, Tripartite version of the Corrádi-Hajnal theorem, *Discrete Math.* 254 (2002), no. 1-3, 289–308.  
DOI:10.1016/S0012-365X(01)00373-9 [arXiv]
- [2] F. Lazebnik, W. Li, and R.R. Martin, Random walks on rooted trees, *Bull. Inst. Combin. Appl.* 22 (1998), 59–66. [Local preprint]
- [1] J. Benashski, R.R. Martin, J. Moore, and L. Traldi, On the  $\beta$ -invariant for graphs, Proceedings of the Twenty-sixth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1995). *Congr. Numer.* **109** (1995), 211–221. [Local Preprint]

# Ryan R. Martin

## Publications (6)

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### Book Chapter:

- R.R. Martin, The edit distance in graphs: methods, results and generalizations, *Recent Trends in Combinatorics*, 31–62, IMA Vol. Math. Appl., 159, Springer, Cham, 2016.  
DOI:10.1007/978-3-319-24298-9\_2 [Chapter Copy] [Local preprint] [ERRATA]

### Extended Abstracts:

- R.R. Martin (based on joint work with J. Balogh and A. Pluhár), The diameter game (extended abstract), in *Oberwolfach Reports* 4 (2007), no. 2, 1073–1114. [Local Preprint]
- A. Frieze, R.R. Martin, J. Moncel, M. Ruzinkó, and C. Smyth, Identifying codes in random networks (extended abstract), *Proceedings of the 2005 IEEE International Symposium on Information Theory (Adelaide, Australia, 2005)* (2005), 1461–1467. [PrePrint]
- R.R. Martin (based on joint work with Cs. Magyar), Tripartite version of the Corrádi-Hajnal Theorem (extended abstract), *Paul Erdős and his mathematics (Budapest, 1999)*, 166–168, *János Bolyai Math. Soc., Budapest*, 1999.

### arXiv Manuscript:

- M. Axenovich and R.R. Martin, A version of Szemerédi’s regularity lemma for multicolored graphs and directed graphs that is suitable for induced graphs, 2011. [arXiv]

### Dissertations:

- On graph packing, induced subgraphs and intersecting hypergraphs, Ph. D. dissertation, Rutgers, the State University of New Jersey, October 2000. (159pp.) [Thesis]
- Minimum expected time of random walks on rooted trees, Senior thesis, University of Delaware, May 1995. (63pp.)

# Ryan R. Martin

## Invited Conference Talks

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### Invited Conference Talks

- “Counting cycles in planar graphs,” September 14, 2024,  
Special Session on Recent trends in Structural and Extremal Graph Theory,  
AMS Fall Central Sectional Meeting (#1198), San Antonio, TX.
- “Counting cycles in planar graphs,” June 20, 2024,  
International Conference on Graph Theory and its Applications (ICGTA 24),  
Presidency University, Bengaluru, India.
- “Counting paths, cycles, and other subgraphs in planar graphs,” March 19, 2023,  
Special Session on Recent trends in Structural and Extremal Graph Theory,  
AMS Spring Southeastern Sectional Meeting (#1184), Atlanta, GA.
- “Splits with forbidden subgraphs,” October 22, 2022,  
Special Session on Extremal Graph Theory,  
AMS Fall Western Sectional Meeting (#1181), Salt Lake City, UT.
- “Planar Turán number of the 6-cycle,” March 12, 2022,  
Virtual Mini Conference on Graph Theory & Combinatorics  
(canceled special session from AMS Meeting #1175) [Virtual].
- “On the edit distance function of the random graph,” October 10, 2021,  
Special Session on New Trends in Combinatorics,  
AMS Fall Central Sectional Meeting (#1171), (Formerly in Omaha, NE) [Virtual].
- “On the edit distance function of the random graph,” June 21, 2021,  
Extremal Graph Theory and Combinatorics,  
2021 SIAM Conference on Discrete Mathematics (DM21),  
(Formerly in Spokane, WA) [Virtual].
- “Planar Turán number of the 6-cycle,” October 25, 2020,  
Special Session on Topics in Graphs, Hypergraphs and Set Systems,  
AMS Fall Western Sectional Meeting (#1162), Salt Lake City, UT [Virtual].
- “Planar Turán number of the 6-cycle,” October 10, 2020,  
Special Session on Structural and Extremal Graph Theory,  
AMS Fall Southeastern Sectional Meeting (#1161), Chattanooga, TN [Virtual].
- “Extremal functions and symmetrization,” November 09, 2019,  
Special Session on Graph Theory,  
AMS Fall Western Sectional Meeting (#1153), Riverside, CA.
- “Recent progress on the edit distance in graphs,” March 23, 2019,  
Special Session on Recent Trends in Algebraic Graph Theory,  
AMS Spring Central and Western Joint Sectional Meeting (#1147), Honolulu, HI.
- “On difference graphs and the local dimension of posets,” September 29, 2018,  
Special Session on Graph Theory,  
AMS Fall Eastern Sectional Meeting (#1141), Newark, DE.
- “On difference graphs and the local dimension of posets,” August 28, 2018,  
First Southwestern German Workshop on Graph Theory,  
Thomashof, near Karlsruhe, Germany.
- “On difference graphs and the local dimension of posets,” June 07, 2018,  
The Structure of Families of Finite Sets,  
2018 SIAM Conference on Discrete Mathematics (DM18), Denver, CO.



# Ryan R. Martin

## Invited Conference Talks (2)

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### Invited Conference Talks (2)

- “The edit distance on graphs: Part I, Part II, and Part III,” April 22, 2018,  
5th Lake Michigan Workshop on Combinatorics and Graph Theory,  
Notre Dame University, South Bend, IN.  
[Part I Slides] [Part II Slides] [Part III Slides]
- “The saturation number of induced subposets of the Boolean lattice,” April 02, 2017,  
Special Session on Extremal Problems in Graphs, Hypergraphs and Other Combinatorial Structures,  
AMS Spring Central Sectional Meeting (#1127), Bloomington, IN.
- “An asymptotic multipartite Kühn-Osthus theorem,” November 13, 2016,  
Special Session on Graphs, Hypergraphs, and Set Systems,  
AMS Fall Southeastern Sectional Meeting (#1124), Raleigh, NC.
- “An asymptotic multipartite Kühn-Osthus theorem,” October 29, 2016,  
Special Session on Extremal Combinatorics,  
AMS Fall Central Sectional Meeting (#1123), Minneapolis, MN.
- “An asymptotic multipartite Kühn-Osthus theorem,” September 24, 2016,  
Special Session on New Developments in Graphs and Hypergraphs,  
AMS Fall Eastern Sectional Meeting (#1121), Brunswick, ME.
- “The edit distance of powers of cycles,” June 06, 2016,  
Minisymposium on Extremal Combinatorics,  
2016 SIAM Conference on Discrete Mathematics (DM16), Atlanta, GA.
- “The edit distance of powers of cycles,” April 16, 2016,  
Special Session on Probabilistic and Extremal Combinatorics,  
AMS Spring Central Sectional Meeting (#1120), Fargo, ND.
- “The edit distance of powers of cycles,” October 18, 2015,  
Special Session on Probabilistic Combinatorics,  
AMS Fall Southeastern Sectional Meeting (#1113), Memphis, TN.
- “Diamonds are forever,” June 17, 2015,  
Connections in Discrete Mathematics: A celebration of the work of Ron Graham,  
Vancouver, BC, Canada.
- “Diamonds are forever,” April 19, 2015,  
Special Session on Extremal and Structural Graph Theory,  
AMS Spring Western Sectional Meeting (#1105), Las Vegas, NV.
- “Recent progress on diamond-free families (revised title),” March 15, 2015,  
Special Session on Extremal Graph Theory: Hypergraphs, Directed Graphs, and Other Generalizations,  
AMS Spring Central Sectional Meeting (#1108), East Lansing, MI.
- “Recent progress on diamond-free families,” November 08, 2014,  
Special Session on Recent Developments in Graph Theory and Hypergraph Theory,  
AMS Fall Southeastern Sectional Meeting (#1105), Greensboro, NC.
- “Recent progress on diamond-free families,” September 20, 2014,  
Special Session on Problem Solving in Extremal Combinatorics and Combinatorial Geometry, AMS Fall Central Sectional Meeting (#1102), Eau Claire, WI.
- “Recent progress on diamond-free families,” June 16, 2014,  
Posets Minisymposium,  
2014 SIAM Conference on Discrete Mathematics (DM14), Minneapolis, MN.

# Ryan R. Martin

## Invited Conference Talks (3)

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### Invited Conference Talks (3)

- “Multipartite version of the Alon-Yuster theorem,” November 02, 2013,  
Atlanta Lecture Series X, Emory University, Atlanta, GA.  
[Atlanta Lecture Series Slides]
- “Diamond-free families of the Boolean lattice,” October 05, 2013,  
Special Session on Partially Ordered Sets,  
AMS Fall Southeastern Sectional Meeting (#1092), Louisville, KY.
- “Diamond-free families of the Boolean lattice,” October 21, 2012,  
Special Session on Extremal Graph Theory,  
AMS Fall Central Sectional Meeting (#1084), Akron, OH.
- “Diamond-free families of the Boolean lattice,” October 07, 2012,  
Combinatorics Parallel Session, International Conference on Advances in Inter-  
disciplinary Statistics and Combinatorics, Greensboro, NC.
- “Multicolor and directed edit distance,” June 20, 2012,  
Graph Coloring Minisymposium, 2012 SIAM Conference on Discrete  
Mathematics (DM12), Halifax, Nova Scotia, Canada.
- “Multipartite version of the Alon-Yuster theorem,” June 20, 2012,  
Extremal Graph Theory Minisymposium, 2012 SIAM Conference on Discrete  
Mathematics (DM12), Halifax, Nova Scotia, Canada.
- “On the edit distance from  $K_{2,t}$ -free graphs,” October 15, 2011,  
Special Session on Extremal and Probabilistic Combinatorics,  
AMS Central Sectional Meeting (#1074), Lincoln, NE.
- “Induced saturation number,” September 25, 2011,  
Special Session on Extremal Combinatorics,  
AMS Fall Southeastern Sectional Meeting (#1073), Winston-Salem, NC.
- “Induced saturation number,” May 01, 2011,  
Special Session on Extremal Combinatorics,  
AMS Spring Western Sectional Meeting (#1071), Las Vegas, NV.
- “Recent results on the edit distance of graphs,” November 06, 2010,  
Special Section on Graph Theory,  
Fall AMS Southeastern Sectional Meeting (#1065), Richmond, VA.
- “Computing the edit distance function,” June 17, 2010,  
Extremal Graph Theory Minisymposium,  
2010 SIAM Conference on Discrete Mathematics (DM10), Austin, TX.
- “Tiling in Multipartite Graphs,” January 15, 2010,  
SIAM Minisymposium on Graph Theory,  
2010 Joint Mathematics Meetings (#1056), San Francisco, CA.
- “On Avoider-Enforcer games,” April 04, 2009,  
33rd SIAM Southeastern-Atlantic Section Conference, Columbia, SC.
- “On Avoider-Enforcer games,” March 28, 2009,  
Special Session on Probabilistic and Extremal Combinatorics,  
AMS Central Section Meeting (#1047), Urbana, IL.
- “On the edit distance function,” May 18, 2008,  
International Conference on Interdisciplinary Mathematical and Statistical  
Techniques, University of Memphis, Memphis, TN.

# Ryan R. Martin

## Invited Conference Talks (4)

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### Invited Conference Talks (4)

- “The edit distance function,” April 06, 2008,  
Special Session on Graph Theory,  
AMS Central Section Meeting (#1038), Bloomington, IN.
- “The edit distance in graphs,” October 06, 2007,  
Special Session on Extremal and Probabilistic Combinatorics,  
AMS Central Section Meeting (#1030), Chicago, IL.
- “The diameter game,” April 08-14, 2007,  
Miniworkshop: Positional Games, 0715c,  
Mathematisches Forschungsinstitut Oberwolfach, Germany.
- “The diameter game,” March 17, 2007,  
Special Session on Graph Theory,  
AMS Central Section Meeting (#1025), Oxford, OH.
- “The diameter game,” November 04, 2006,  
Special Session on Extremal and Probabilistic Combinatorics,  
AMS Southeastern Section Meeting (#1022), Fayetteville, AR.
- “It’s raining hyperedges: Online intersecting hypergraphs beyond the threshold,”  
October 23, 2004, Special Session on Extremal Combinatorics,  
AMS Central Section Meeting (#1001), Evanston, IL.

### Invited Workshops

- Focused Workshop on Generalized and Planar Turán Problems,  
July 29-August 02, 2024, Alfréd Rényi Institute of Mathematics,  
Budapest, Hungary.
- Thirteenth Emléktábla workshop, August 13-18, 2023, Vác, Hungary.
- Workshop on Order and Geometry, September 19-23, 2016, Gułtowy Palace near  
Poznań, Poland.
- Institute for Mathematics and its Applications September 01, 2014-May 15, 2015,  
Scholar in-residence, IMA Thematic Year on Discrete Structures.
- Probabilistic and Extremal Combinatorics [Invited Participant], September 08-12, 2014.
  - Additive and Analytic Combinatorics, September 29-October 03, 2014.
  - Geometric and Enumerative Combinatorics, November 10-14, 2014.
  - Convexity and Optimization: Theory and Applications, February 23-27, 2015.
  - The Power of Randomness in Computation, March 16-20, 2015.
  - Information Theory and Concentration Phenomena, April 13-17, 2015.
  - Analytical Tools in Probability and Applications, April 27-May 01, 2015.
- Polychromatic Colorings of the Hypercube, March 26-30, 2014  
Institute for Computational and Experimental Research in Mathematics (ICERM),  
Providence, RI.
- NIMbios workshop on Animal Social Networks, March 06-08, 2014, Knoxville, TN.
- Theory and Applications of Matrices Described by Patterns,  
January 31-February 05, 2010, Banff International Research Station (BIRS)  
workshop, Banff, Alberta, Canada.

# Ryan R. Martin

## Invited Conference Talks (5)

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<b>Visits and Workshop Activity</b>	<p>Graduate Research Workshop in Combinatorics, May 21-June 01, 2018, Ames, IA. Graduate Research Workshop in Combinatorics, July 18-22, 2017, Denver, CO. Poset Saturation: Followup workshop, June 10-16, 2016, Denver, CO. Graduate Research Workshop in Combinatorics, July 25-29, 2016, Laramie, WY. Polychromatic Colorings of the Hypercube: Followup workshop, September 14-18, 2015, Ames, IA. Graduate Research Workshop in Combinatorics, June 01-12, 2015, Ames, IA. Graduate Research Workshop in Combinatorics, August 05-09, 2014, Denver, CO.</p>
<b>Conferences Organized</b>	<p>Focused Workshop on Saturation in the Forbidden Subposet Problem, July 31-August 04, 2023, Erdős Center, Budapest, Hungary. Co-organized with B. Patkós, Gy.O.H. Katona, and A. Treglown. Minisymposium on Randomly Perturbed (Hyper)graphs, June 13-16, 2022, SIAM Conference on Discrete Mathematics (DM22), Pittsburgh, PA. Co-organized with E. Aigner-Horev and D. Hefetz. ILAS 2017: Connections, 2017 Meeting of the International Linear Algebra Society, July 24-28, 2017, Ames, IA. Local organizing committee. Special Session on Discrete Structures: Analysis and Applications (IMA Reunion), October 28-30, 2016, AMS Central Section Meeting (#1123), Minneapolis, MN. Co-organized with L. Hogben and E. Werner. Special Session on Extremal Combinatorics, April 27-28, 2013, AMS Section Meeting (#1090), Ames, IA. Co-organized with S. Butler. Also on local organizing committee. Midwestern Graph TheorY (MIGHTY) LIII, September 21-22, 2012, Ames, IA. Co-organized with S. Butler and M. Young. Special Session on Extremal Combinatorics, April 31-May 1, 2011, AMS Western Section Meeting (#1071), Las Vegas, NV. Co-organized with J. Balogh. Special Session on Probabilistic and Extremal Combinatorics, April 10-11, 2010, AMS Central Section Meeting (#1058), St. Paul, MN. Co-organized with M. Axenovich.</p>
<b>Selected Long-Term Visitors</b>	<p>Balázs Patkós, January 05-May 30, 2024. Maria Axenovich, November 23-December 12, 2022. Addisu Paulos, November 11-16, 2022. Zhanar Berikkyzy, November 22-30, 2021. Dániel Gerbner, Abhishek Methuku, and Andrew Uzzell, November 20-28, 2017. Heather Smith, March 28-31, 2017. Xavier Pérez-Giménez, February 08-10, 2017. Richard Mycroft, March 08-18, 2014. Jozef Skokan, April 26-May 02, 2013.</p>

# Ryan R. Martin

## Colloquium & Seminar Talks

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### Invited Colloquium & Seminar Talks

- “Counting cycles in planar graphs,” April 26, 2024,  
Combinatorics Seminar, Louisiana State University, Baton Rouge, LA.
- “Counting cycles in planar graphs,” December 13, 2023,  
Seminar on Combinatorics, Games and Optimisation,  
London School of Economics & Political Science, London, UK.
- “Counting cycles in planar graphs,” December 08, 2023,  
Combinatorics Seminar, University of Warwick, Warwick, UK.
- “Counting cycles in planar graphs,” December 07, 2023,  
Combinatorics Seminar, University of Birmingham, Birmingham, UK.
- “Counting cycles in planar graphs,” October 06, 2023,  
Discrete/Combin. Seminar, University of South Carolina, Columbia, SC [Virtual].
- “Counting cycles in planar graphs,” July 20, 2023,  
Discrete Mathematics Seminar, Bolyai Institute for Mathematics,  
University of Szeged, Szeged, Hungary.
- “Saturation on posets,” May 12, 2022,  
Discrete Mathematics Seminar, Karlsruhe Institute of Technology [Virtual].
- “Counting paths, cycles, and other subgraphs in planar graphs,” February 25, 2022,  
Discrete Mathematics Seminar, University of South Carolina, Columbia, SC.
- “Counting paths, cycles, and other subgraphs in planar graphs,” February 11, 2022,  
Algebra and Combinatorics Seminar, Texas A&M University [Virtual].
- “Counting paths, cycles, and other subgraphs in planar graphs,” November 09, 2021,  
Graph Theory Seminar, Georgia Institute of Technology, Atlanta, GA.
- “Counting paths, cycles, and other subgraphs in planar graphs,” November 05, 2021,  
Colloquium, Georgia State University, Atlanta, GA.
- “Extremal theorems on posets,” March 03, 2021,  
Discrete Mathematics Seminar, Virginia Commonwealth University [Virtual].
- “Planar Turán number of the 6-cycle,” December 11, 2020,  
Discrete Mathematics Seminar, Karlsruhe Institute of Technology [Virtual].
- “Splits with forbidden subgraphs,” September 18, 2020,  
Discrete Mathematics Seminar, University of South Carolina [Virtual].
- “Splits with forbidden subgraphs,” September 01, 2020,  
Graph Theory and Combinatorics Seminar,  
University of Illinois at Urbana-Champaign [Virtual].
- “On difference graphs and the local dimension of posets,” February 06, 2020,  
Discrete Mathematics Seminar,  
Karlsruhe Institute of Technology, Karlsruhe, Germany.
- “Induced saturation in posets,” January 23, 2020,  
Discrete Mathematics Seminar,  
Karlsruhe Institute of Technology, Karlsruhe, Germany.

# Ryan R. Martin

## Colloquium & Seminar Talks (2)

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### Invited Colloquium & Seminar Talks (2)

- “Diamond-free families and flag algebras,” December 12, 2019,  
Extremal Set Systems Seminar,  
Rényi Institute for Mathematics, Budapest, Hungary.
- “On difference graphs and the local dimension of posets,” November 15, 2019,  
Combinatorics Seminar, Bolyai Institute, University of Szeged, Szeged, Hungary.
- “Introduction to the edit distance in graphs,” November 14, 2019,  
Colloquium Lecture, Budapest Semesters in Mathematics, Budapest, Hungary.
- “Extremal poset theory,” October 03, 2019,  
Colloquium Lecture, Budapest Semesters in Mathematics, Budapest, Hungary.
- “The edit distance in graphs,” October 03, 2019,  
Combinatorics Seminar, Rényi Institute for Mathematics, Budapest, Hungary.
- “Induced saturation in posets,” September 26, 2019,  
Extremal Set Systems Seminar,  
Rényi Institute for Mathematics, Budapest, Hungary.
- “On difference graphs and the local dimension of posets,” May 29, 2019,  
Combinatorial Number Theory Seminar,  
University of California, Riverside, Riverside, CA.
- “The edit distance function for graphs,” May 14, 2019,  
Discrete Mathematics Seminar, University of Delaware, Newark, DE.
- “Introduction to the edit distance on graphs,” March 29, 2019,  
Department of Mathematics & Statistics Colloquium,  
University of South Florida, Tampa, FL.
- “The saturation number of induced subposets of the Boolean lattice,” June 22, 2017,  
Seminar, Karlsruhe Institute of Technology, Karlsruhe, Germany.
- “The saturation number of induced subposets of the Boolean lattice,” June 15, 2017,  
Seminar on Combinatorics, Games and Optimisation,  
London School of Economics, London, England, UK.
- “Methods in computing the edit distance function,” February 17, 2017,  
Combinatorics seminar, Department of Mathematics,  
University of South Carolina, Columbia, SC.
- “Introduction to the edit distance in graphs,” February 16, 2017,  
Superseminar, Department of Mathematics,  
University of South Carolina, Columbia, SC.
- “The edit distance of powers of cycles,” May 03, 2016,  
Seminar, Department of Combinatorics and Optimization,  
University of Waterloo, Waterloo, ON, Canada.
- “Rainbow arithmetic progressions,” March 07, 2016,  
Graph Theory and Combinatorics Seminar, Department of Mathematics,  
University of Illinois at Urbana-Champaign, Urbana, IL.
- “The small world problem: Six degrees of graph theory,” November 23, 2015,  
Mathematics Seminar, University of Wisconsin-La Crosse, Lacrosse, WI.
- “Recent progress on Diamond-Free families,” May 15, 2015,  
Seminar on Discrete Mathematics and Game Theory,  
London School of Economics and Political Science, London, UK.
- “Recent progress on Diamond-Free families,” May 11, 2015,  
Combinatorics Seminar, University of Birmingham, Birmingham, UK.

# Ryan R. Martin

## Colloquium & Seminar Talks (3)

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### Invited Colloquium & Seminar Talks (3)

- “A new upper bound for the size of diamond-free families,” March 23, 2015,  
Combinatorics Seminar, Emory University, Atlanta, GA.
- “On the edit distance in graphs,” December 04, 2014,  
IMA Annual Program Seminar, Thematic Year on Discrete Structures,  
Institute for Mathematics and its Applications, Minneapolis, MN.
- “Multipartite version of the Alon-Yuster theorem,” November 26, 2013,  
Discrete Mathematics Seminar, University of Delaware, Newark, DE.
- “Multipartite version of the Alon-Yuster theorem,” July 08, 2013,  
Seminar, University of Szeged, Szeged, Hungary.
- “Recent results on the edit distance in graphs,” June 27, 2013,  
Seminar on Discrete Mathematics and Game Theory,  
London School of Economics and Political Science, London, England, UK.
- “Multipartite version of the Alon-Yuster theorem,” June 24, 2013,  
Combinatorics Seminar, University of Birmingham, Birmingham, England, UK.
- “Diamond-free families of the Boolean lattice,” March 19, 2013,  
Discrete Mathematics Seminar, University of Delaware, Newark, DE.
- “Forbidden posets, the Boolean lattice and flag algebras,” May 22, 2012,  
Informatics Colloquium, Department of Informatics,  
Karlsruhe Institut für Technologie, Karlsruhe, Germany.
- “Forbidden posets, the Boolean lattice and flag algebras,” May 18, 2012,  
Combinatorics and Game Theory Seminar, Department of Mathematics,  
London School of Economics and Political Science, London, England, UK.
- “Induced Saturation Number,” April 09, 2012,  
Discrete Mathematics Seminar, Department of Mathematical and Statistical  
Sciences, University of Colorado-Denver, Denver, CO.
- “On diamond-free subposets of the Boolean lattice,” March 16, 2012,  
Algebra and Logic Seminar, Department of Mathematics,  
University of South Carolina, Columbia, SC.
- “The small world problem: Six degrees of graph theory,” March 13, 2012,  
MATH/CS Colloquium, Department of Mathematics and Computer Science,  
The Citadel, Charleston, SC.
- “Recent results on the edit distance of graphs,” July 26, 2011,  
Seminar, Department of Mathematics,  
University of British Columbia, Vancouver, BC, Canada.
- “Recent results on the edit distance of graphs,” March 16, 2011,  
Discrete Mathematics Seminar, Department of Mathematics,  
University of South Carolina, Columbia, SC.

# Ryan R. Martin

## Colloquium & Seminar Talks (4)

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### Invited Colloquium & Seminar Talks (4)

- “Expected value of the minimum rank of a graph,” November 10, 2010,  
Seminar class talk, Department of Mathematics,  
University of Illinois at Urbana-Champaign, Urbana, IL.
- “ $Q_2$ -free families in the Boolean lattice,” November 09, 2010,  
Graph Theory and Combinatorics Seminar, Department of Mathematics,  
University of Illinois at Urbana-Champaign, Urbana, IL.
- “Vertex identifying codes in infinite grids,” November 04, 2010,  
Discrete Mathematics Seminar, Department of Mathematics,  
Virginia Commonwealth University, Richmond, VA.
- “The small world problem: Six degrees of graph theory,” November 02, 2010,  
Joint Mathematics Colloquium,  
Millersville University/Franklin & Marshall College, Lancaster, PA.
- “Recent results on the edit distance of graphs,” October 14, 2010,  
Combinatorics Seminar, Department of Pure Mathematics and Mathematical  
Statistics, University of Cambridge, Cambridge, England, UK.
- “Recent results on the edit distance of graphs,” October 07, 2010,  
Seminar on Discrete Mathematics and Game Theory,  
Department of Mathematics, London School of Economics and Political Science,  
London, England, UK.
- “Vertex identifying codes in infinite grids,” October 06, 2010,  
Discrete Geometry and Combinatorics Seminar, Department of Mathematics,  
University College London, London, England, UK.
- “Recent results on the edit distance of graphs,” October 04, 2010,  
Combinatorics Seminar, School of Mathematics, University of Birmingham,  
Birmingham, England, UK.
- “ $Q_2$ -free families in the Boolean lattice,” October 01, 2010,  
Combinatorics Seminar, School of Mathematical Sciences,  
Queen Mary College, University of London, London, England, UK.
- “Recent results on the edit distance of graphs,” August 31, 2010,  
Discrete Mathematics Seminar, Department of Mathematics,  
University of Nebraska – Lincoln, Lincoln, NE.
- “The small world problem: Six degrees of graph theory,” May 04, 2010,  
Research Seminar, Mathematics, Statistics, and Computer Science Department,  
St. Olaf College, Northfield, MN.
- “Tiling in Multipartite Graphs,” November 13, 2009,  
Discrete Math Seminar, Texas State University, San Marcos, TX.
- “The small world problem: Six degrees of graph theory,” September 07, 2009,  
Convocation Series, Illinois College, Jacksonville, IL.
- “Expected value of the minimum rank of a graph,” May 19, 2009,  
Graph Theory and Combinatorics Seminar, Department of Mathematics,  
University of Illinois at Urbana-Champaign, Urbana, IL.
- “The small world problem: Six degrees of graph theory,” November 18, 2008,  
Department of Mathematics and Computer Science Seminar,  
Central College, Pella, IA.
- “The small world problem: Six degrees of graph theory,” November 11, 2008,  
Department of Mathematics and Computer Science Seminar,  
Macalester College, St. Paul, MN.



# Ryan R. Martin

## Colloquium & Seminar Talks (5)

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**Invited  
Colloquium  
& Seminar  
Talks (5)**

- “Tiling in multipartite graphs,” May 01, 2008,  
ACO (Algorithms, Combinatorics and Optimization) Seminar,  
Carnegie Mellon University, Pittsburgh, PA.
- “Tiling in multipartite graphs,” April 29, 2008,  
Graph Theory and Combinatorics Seminar, Department of Mathematics,  
University of Illinois at Urbana-Champaign, Urbana, IL.
- “Computing edit distance,” November 20, 2007,  
Applied Mathematics Seminar, Department of Applied Mathematics,  
Illinois Institute of Technology, Chicago, IL.
- “The edit distance in graphs,” November 19, 2007,  
Applied Mathematics Colloquium, Department of Applied Mathematics,  
Illinois Institute of Technology, Chicago, IL.
- “On the edit distance in graphs,” May 11, 2007,  
Discrete Mathematics and Algebra Seminar,  
Department of Mathematical Sciences, University of Delaware, Newark, DE.
- “On the editing distance in graphs,” January 24, 2006,  
Combinatorics Seminar, University of Illinois at Urbana-Champaign, Urbana, IL.
- “Vertex identifying codes and the random graph,” November 04, 2005,  
Computer Science Department Colloquium, Iowa City, IA.
- “Vertex identifying codes and the random graph,” May 15, 2005,  
Discrete Mathematics and Algebra Seminar,  
Department of Mathematical Sciences, University of Delaware, Newark, DE.
- “Online intersecting hypergraphs,” March 16, 2005,  
Mathematics Seminar, Department of Mathematics, Statistics and  
Computer Science, University of Illinois at Chicago, Chicago, IL.
- “Six degrees of graph theory: Kevin Bacon, Paul Erdős, William McKinley and me,”  
February 01, 2005, Mathematics Seminar, Central College, Pella, IA.
- “On the editing distance in graphs,” March 17, 2004,  
Mathematics seminar, Department of Mathematics, Statistics and  
Computer Science, University of Illinois at Chicago, Chicago, IL.
- “The regularity lemma, the blow-up lemma and a conjecture of Corrádi and Hajnal,”  
May 1999, Discrete Mathematics and Algebra Seminar,  
Department of Mathematical Sciences, University of Delaware, Newark, DE.

# Ryan R. Martin

## Contributed Talks

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### Contributed Talks

- “Counting cycles in planar graphs,” October 13, 2023,  
Kolloquium über Kombinatorik (KOLKOM 2023),  
Heidelberg University, Heidelberg, Germany.
- “An asymptotic multipartite Kühn-Osthus theorem,” August 08, 2017,  
Algebraic and Extremal Graph Theory, University of Delaware, Newark, DE.
- “Expected value of the minimum rank of a graph,” May 21, 2009,  
22nd Cumberland Conference on Combinatorics, Graph Theory and Computing,  
Western Kentucky University, Bowling Green, KY.
- “On the edit distance function for graphs,” August 12, 2008,  
Fete of Combinatorics and Computer Science,  
Organized by the Rényi Institute, Keszthely, Hungary.
- “The edit distance in graphs,” May 05, 2007,  
(Your Regular) Workshop on Extremal Graphs and Hypergraphs,  
Carnegie Mellon University, Pittsburgh, PA.
- “Recent results on packing problems in multipartite graphs,” July 19, 2006,  
Horizons of Combinatorics, Balatonalmádi, Hungary.
- “Vertex identifying codes and the random graph,” April 29, 2006,  
Midwestern Graph Theory (MIGHTY) XLII, Marion, OH.
- “Vertex identifying codes and the random graph,” April 07, 2006,  
Mathematical Association of America (MAA)-Iowa conference, Ames, IA.
- “The editing distance in graphs,” August 02, 2005,  
Rocky Mountain Discrete Mathematics Days, Laramie, WY.
- “Vertex identifying codes and the random graph,” May 21, 2005  
WaterMellon conference, Pittsburgh, PA.
- “Vertex identifying codes and the random graph,” April 30, 2005,  
Brualdi-fest, Madison, WI.
- “Six degrees of graph theory: Kevin Bacon, Paul Erdős, William McKinley and me,”  
April 17, 2004, Mathematical Association of America (MAA)-Iowa conference,  
Pella, IA.
- “On the editing distance in graphs,” April 05, 2004,  
Conference on extremal combinatorics honoring 200 years of Peter Frankl, Zoltán  
Füredi, Ervin Györi and János Pach, Rényi Institute, Budapest, Hungary.
- “You’ve got Erdős-Ko-Radó: Intersecting hypergraphs online,” September 20, 2003,  
Midwestern Graph Theory (MIGHTY) XXXVII, Valparaiso, IN.
- “Antiramsey Numbers,” April 05, 2003,  
AMS Central Section Meeting (#985), Bloomington, IN.
- “How many random edges make a dense graph Hamiltonian?,” August 14, 2002,  
2012 SIAM Conference on Discrete Mathematics, San Diego, CA.
- “On the  $\beta$ -invariant for graphs,” March 1995,  
Southeastern International Conference on Combinatorics, Graph Theory and  
Computing, Boca Raton, FL.

# Ryan R. Martin

## Conferences Attended

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### Other Conferences Attended

European Conference on Combinatorics, Graph Theory and Applications:  
Eurocomb'23, August 28 - September 01, 2023,  
Charles University, Prague, Czechia.

Flag Algebras Summer School, May 15-19, 2023, Iowa State University, Ames, IA.

Combinatorial Meeting of Prairie and Sky 2022: CMPS 2022, May 17, 2022,  
hosted jointly by Iowa State University, University of Montana and  
University of Illinois [Virtual].

AMS Western Sectional Meeting (#1178), May 07-08, 2022,  
(Formerly in Denver, CO) [Virtual].

Canadian Discrete and Algorithmic Mathematics Conference 2021: CanaDAM 2021,  
May 25-28, 2021, Virtual (Formerly in Winnipeg, AB, Canada) [Virtual].

Central Cornfields Combinatorial Conference 2021: CCCC 2021, May 24, 2021,  
hosted jointly by Iowa State University and University of Illinois [Virtual].

Combinatorial Meeting of Prairie and Sky 2021: CMPS 2021, May 17, 2021,  
hosted Jointly by University of Montana and University of Illinois [Virtual].

Mostly Manitoba, Michigan and Minnesota combinatorics graduate students  
workshop: MMMM 2018, September 8-9, 2018, Iowa State University, Ames, IA.

ILAS 2017: Connections, 2017 Meeting of the International Linear Algebra Society,  
July 24-28, 2017, Iowa State University, Ames, IA.

2015 Meeting of the Iowa Section of the Mathematical Association of America (MAA),  
October 03, 2015, Graceland University, Lamoni, IA.

2015 Colloquia in Combinatorics, May 13-14, 2015, Queen Mary, University of London  
and London School of Economics and Political Science, London, UK.

Erdős Centennial, July 1-5, 2013, Rényi Institute, Budapest, Hungary.

2013 Colloquia in Combinatorics, May 16-17, 2013, Queen Mary, University of London  
and London School of Economics and Political Science, London, UK.

EXCILL 2: EXtremal Combinatorics at ILLinois, March 16-18, 2013,  
University of Illinois at Urbana-Champaign, Urbana, IL.

Third Abel Conference: A Mathematical Celebration of Endre Szemerédi,  
November 29-December 01, 2012, Institute for Mathematics and its Applications,  
Minneapolis, MN.

AMS Central Sectional Meeting (#1069), March 18-20, 2011,  
University of Iowa, Iowa City, IA.

Szemerédi70: A conference in honor of the 70th birthday of Endre Szemerédi,  
August 02-06, 2010, organized by the Rényi Institute and held at the  
Gólyavár at Eötvös Lóránd University, Budapest, Hungary.

Building Bridges: A conference on mathematics and computer science in honor of  
Laci Lovász, August 05-09, 2008, partially organized by the Rényi Institute and  
held at the Gólyavár at Eötvös Lóránd University, Budapest, Hungary.

New Directions in Algorithms, Combinatorics and Optimization, May 05-09, 2008,  
Georgia Institute of Technology, Atlanta, GA.

Random Combinatorial Structures, April 20-22, 2007,  
University of Nebraska-Lincoln, Lincoln, NE.

EXCILL: EXtremal Combinatorics at ILLinois, November 18-20, 2006,  
University of Illinois at Urbana-Champaign, Urbana, IL.

Horizons of Combinatorics (Summer School), July 10-14, 2006,  
Rényi Institute, Budapest, Hungary.

# Ryan R. Martin

## Conferences Attended & Local Seminar Talks

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- Other Conferences Attended (2)**
- FriezeFest, October 21-22, 2005, Carnegie Mellon University, Pittsburgh, PA.
  - Paul Erdős and his Mathematics, July 1999, Rényi Institute, Hungarian Academy of Sciences, Budapest, Hungary.
  - Teaching-learning conference, Rutgers University, New Brunswick, NJ, January 1998.
- Local Seminar Talks**
- “Improved bounds on chain saturation,” November 30, 2023, Rényi Institute Extremális Halmazrendszerek Szeminárium.
  - “The edit distance in graphs II,” November 02, 2023, Rényi Institute Kombinatorika Szeminárium.
  - “The edit distance in graphs I,” October 19, 2023, Rényi Institute Kombinatorika Szeminárium.
  - “Planar Turán number of the 6-cycle,” February 22, 2022, ISU Discrete Mathematics Seminar.
  - “Planar Turán number of the 6-cycle,” January 28, 2021, ISU Discrete Mathematics Seminar.
  
  - “The edit distance on graphs,” February 27, 2018, ISU Discrete Mathematics Seminar.
  - “The local dimension of posets and a probabilistic construction,” December 04, 2017, ISU Probability Seminar.
  - “An asymptotic multipartite Kühn-Osthus theorem,” October 24, 2017, ISU Discrete Mathematics Seminar.
  - “An asymptotic multipartite Kühn-Osthus theorem,” October 25, 2016, ISU Discrete Mathematics Seminar.
  - “Diamonds are forever,” January 26, 2015, ISU Discrete Mathematics Seminar.
  
  - “Path separation number in graphs,” February 24, 2014, ISU MECS Interdisciplinary Seminar.
  - “Can a Venn diagram be made with 4 circles?,” February 23, 2014, ISU II *M E* Math Club talk.
  - “Vertex-identifying codes in graphs,” February 17, 2014, ISU MECS Interdisciplinary Seminar.
  - “Matrix version of Szemerédi’s regularity lemma,” April 09, 2013, ISU Discrete Mathematics Seminar.
  - “Posets and graphs,” October 23, 2012, ISU Discrete Mathematics Seminar.
  - “The small world problem: Six degrees of graph theory,” March 25, 2012, ISU II *M E* Math Club Talk.
  - “More on vertex identifying codes and related parameters,” February 07, 2012, ISU Discrete Mathematics Seminar.
  - “Vertex identifying codes and random graphs,” February 06, 2012, ISU Electrical and Computer Engineering Department Faculty Seminar.

# Ryan R. Martin

## Local Seminar Talks (2)

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### Local Seminar Talks (2)

- “Fractional version of the multipartite Hajnal-Szemerédi theorem,”  
November 08, 2011, **ISU** Discrete Mathematics Seminar.
- “Random partitions of regular pairs,” November 07, 2011,  
**ISU** Probability Seminar.
- “Using localization to compute edit distance II,” January 25, 2011,  
**ISU** Discrete Mathematics Seminar.
- “Using localization to compute edit distance I,” January 18, 2011,  
**ISU** Discrete Mathematics Seminar.
- “On the structure of almost all graphs in a hereditary property,” December 06, 2010,  
**ISU** Probability Seminar.
- “Entropy and counting,” April 13, 2010,  
**ISU** Discrete Mathematics Seminar.
- “The entropy method and the number of independent sets in a regular graph,”  
March 23, 2010, **ISU** Discrete Mathematics Seminar.
- “The Hoffman-Singleton theorem,” January 19, 2010,  
**ISU** Discrete Mathematics Seminar.
- “Tiling on multipartite graphs,” September 01, 2009,  
**ISU** Discrete Mathematics Seminar.
- “The small world problem: Six degrees of graph theory,” May 09, 2009,  
Mathematics On The Road Experience, Mississippi Bend Area Education Agency.
- “On the minimum rank of graphs,” April 14, 2009,  
**ISU** Discrete Mathematics Seminar.
- “On Avoider-Enforcer games,” March 31, 2009,  
**ISU** Discrete Mathematics Seminar.
- “The edit distance in graphs,” October 27, 2008,  
**ISU** Mathematics Department Colloquium.
- “Counting the number of regions formed by circles in the plane,” October 19, 2008,  
II *M E* Math Club talk, **ISU**.
- “The vertex Ramsey problem,” February 19, 2008,  
**ISU** Discrete Mathematics Seminar.
- “The edit distance in graphs,” October 19, 2007,  
**ISU** Graduate Student Seminar.
- “Edit distance in graphs: Colored regularity graphs,” October 02, 2007,  
**ISU** Discrete Mathematics Seminar.
- “Some intriguing open problems regarding positional games,” April 17, 2007,  
**ISU** Discrete Mathematics Seminar.
- “Beauty is rare: The Hoffman-Singleton theorem,” February 06, 2007,  
**ISU** Discrete Mathematics Seminar.

# Ryan R. Martin

## Local Seminar Talks (3)

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### Local Seminar Talks (3)

- “The diameter game,” November 14, 2006,  
**ISU Discrete Mathematics Seminar.**
- “Generalized tic-tac-toe: Introduction to Positional Games and probabilistic intuition,” November 07, 2006, **ISU Discrete Mathematics Seminar.**
- “Introduction to expander graphs,” April 17, 2006,  
**ISU Discrete Mathematics Seminar.**
- “Smoothed analysis of graphs,” March 20, 2006,  
**ISU Discrete Mathematics Seminar.**
- “On the editing distance in graphs,” March 10, 2006,  
**ISU Discrete Mathematics Seminar.**
- “An application of Szemerédi’s regularity lemma,” November 01 & 08, 2005,  
**ISU Discrete Mathematics Seminar.**
- “The small world problem and so much more!  $6^{6^6}$  degrees of graph theory,”  
October 19, 2005, **ISU Graduate Student Seminar.**
- “The small world problem: Kevin Bacon, Paul Erdős, William McKinley, and me –  
5 degrees of graph theory,” July 14, 2005,  
**ISU Summer Seminar Series (Related to the REU).**
- “Identification codes and superimposed codes,” February 10 & 17, 2005,  
**ISU Discrete Mathematics Seminar.**
  
- “Report on the extremal combinatorics session of the Central Section Meeting of the  
AMS,” October 29, 2004, **ISU Discrete Math/Theory of Computing Seminar**  
(with M. Axenovich, A. Wangsness).
- “Vertex identification codes in graphs,” October 15, 2004,  
**ISU Discrete Math/Theory of Computing Seminar.**
- “Six degrees of graph theory: Kevin Bacon, Paul Erdős, William McKinley and me,”  
October 06, 2004, **ISU Graduate Student Seminar.**
- “Online intersecting hypergraphs II,” August 27, 2004,  
**ISU Discrete Math/Theory of Computing Seminar.**
- “On the editing distance in graphs, part II,” February 06, 2004,  
**ISU Discrete Math/Theory of Computing Seminar.**
- “You’ve got Erdős-Ko-Radó: Intersecting hypergraphs online,” November 10, 2003,  
**ISU Combinatorics/Algebra Seminar.**
- “Report from the 37th Midwestern Graph Theory Conference,” September 29, 2003,  
**ISU Combinatorics/Algebra Seminar (with M. Axenovich).**
- “Six degrees of graph theory: Kevin Bacon, Paul Erdős, William McKinley and me,”  
February 2003, **CMU mathematics undergraduate seminar.**
- “The regularity lemma,” March 2002, **CMU Mathematics Colloquium.**
  
- “The Shannon capacity and Ramsey theory,” December 1998,  
**RU Graduate Student Seminar.**

# Ryan R. Martin

## Courses Taught

ISU:	Semester and Year	Course #: Course Title	Total Enrollment
	F 2024	M166: Calculus II	–
	S 2024	M166: Calculus II	16
	F 2023	On Leave: Distinguished Visiting Researcher at Rényi Institute	
	S 2023	M568: Enumerative Combinatorics and Partially Ordered Sets	7
	F 2022	M304: Introductory Combinatorics	22
	S 2022	M608: Extremal Graph Theory	5
	F 2021	M566: Discrete Optimization	10
	S 2021	M314: Graph Theory	37
	F 2020	M566: Discrete Optimization	4
	S 2020	On Leave: (FPDA, DAAD) Karlsruhe Institute of Technology	
	F 2019	On Leave: (FPDA, Fulbright) Alfréd Rényi Institute of Mathematics	
	S 2019	M606: Enumerative Combinatorics and Partially Ordered Sets	5
	F 2018	M304: Introductory Combinatorics	18
		M317 B: Theory of Linear Algebra	20
	S 2018	M606: Enumerative Combinatorics and Partially Ordered Sets	8
	F 2017	M317 B: Theory of Linear Algebra	19
		M317 C: Theory of Linear Algebra	21
	S 2017	M606: Enumerative Combinatorics and Partially Ordered Sets	16
	F 2016	M165 29: Calculus I	33
		M304: Introductory Combinatorics	17
	S 2016	M608: Extremal Graph Theory	6
	F 2015	M166 15-26: Calculus II	290
		M492: Undergraduate Seminar	14
	S 2015	On Leave: Institute for Mathematics and its Applications (IMA)	
	F 2014	On Leave: Institute for Mathematics and its Applications (IMA)	
	S 2014	M492: Undergraduate Seminar	22
		M608: Extremal Graph Theory	6
	F 2013	M166 B1-D2: Calculus II	167
	S 2013	M166 A-F,D1-H1,J1: Calculus II	336
	F 2012	M166 F1-F4,G1-G4,J1-J4: Calculus II	177
		M566X: Discrete Optimization	7
	S 2012	M608: Extremal Graph Theory	6
	F 2011	M166 G: Calculus II	317
		M166 B: Calculus II	188
	S 2011	M606: Enumerative Combinatorics and Partially Ordered Sets	6
	F 2010	On Leave: Sabbatical (FPDA)	
	S 2010	M608X: Extremal Graph Theory	7
	F 2009	M265 H: Calculus III	189
		M301 A: Abstract Algebra	14

## Ryan R. Martin

### Courses Taught (2)

	Semester and Year	Course #: Course Title	Total Enrollment
ISU:	S 2009	M606: Enumerative Combinatorics and Partially Ordered Sets	7
	F 2008	M165 H: Calculus I	192
		M301 C: Abstract Algebra	9
	S 2008	M608X: Extremal Graph Theory	9
	F 2007	M265 F1: Calculus III	38
		M304: Introductory Combinatorics	13
	S 2007	M606: Enumerative Combinatorics and Partially Ordered Sets	10
	F 2006	M165 A: Calculus I	189
		M165 H: Calculus I	184
	S 2006	M608X: Extremal Graph Theory	6
	F 2005	M265 B: Calculus III	181
		M301 C: Abstract Algebra	18
	S 2005	M301 B: Abstract Algebra	23
	F 2004	M304: Introductory Combinatorics	22
M307 A: Matrix Algebra		34	
S 2004	M317 A: Theory of Linear Algebra	22	
F 2003	M165 A8: Calculus I	39	

	Semester and Year	Course #: Course Title
CMU:	S 2003	M484: Graph Theory
	F 2002	M801: Extremal Graph Theory
	S 2002	M484: Graph Theory
	F 2001	M301: Combinatorial Analysis
	S 2001	M257: Models and Methods for Optimization
	F 2000	M115: Differential Calculus
M106: Topics in Precalculus		
RU:	Sum 1999	M373: Numerical Analysis I
	Sum 1998	M477: Probability Theory I
	Sum 1997	M152: Calculus II Math/Physics

### Courses taught as teaching assistant

	Semester and Year	Course #: Course Title
RU:	S 2000	M244: Diff Eqs/Engr & Physic
	F 1999	M251: Multivariable Calc
	S 1999	M244: Diff Eqs/Engr & Physic
	F 1998	M152: Calculus II Math/Physics
	S 1998	M154: Intensive Calc II
	F 1997	M153: Intensive Calc I
	S 1997	M135: Calculus I
	F 1996	M251: Multivariable Calc



# Ryan R. Martin

## Service: Professional & Institutional

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### Refereeing & Reviewing

Referee for papers:

- *Adv. Comb.*: 2023
- *Ars Combin.*: 2015
- *Bull. Iranian Math. Soc.*: 2009
- *Bull. Lond. Math. Soc.*: 2024
- *Canad. Math. Bull.*: 2009
- *Combinatorica*: 2022 (2)
- *Combin. Probab. Comput.*: 2018, 2015
- *Discrete Appl. Math.*: 2013, 2012, 2007 (2)
- *Discrete Math.*: 2023, 2021, 2019, 2018, 2014, 2013, 2012, 2010 (2), 2008, 2005, 2004 (Special Volume), 2003
- *Discrete Math. Theor. Comput. Sci.*: 2010
- *Discuss. Math. Graph Theory*: 2018, 2016
- *Discrete Optim.*: 2011
- *Electron. J. Combin.*: 2024, 2022, 2021, 2020, 2015, 2014, 2012, 2010 (3), 2009, 2007, 2003
- *European J. Combin.*: 2016
- *Graphs Combin.*: 2020, 2014 (2), 2013
- *IEEE Transactions on Information Theory*: 2007
- *Internat. J. Found. Comput. Sci.*: 2020, 2019,
- *Indian J. Pure Appl. Math.*: 2013
- *J. Appl. Math. Comput.*: 2008, 2006
- *J. Comb.*: 2014
- *J. Combin. Theory Ser. A*: 2016, 2010, 2008
- *J. Combin. Theory Ser. B*: 2014, 2011, 2009
- *J. Graph Theory*: 2021, 2020, 2008, 2007
- LATIN '08: the 8<sup>th</sup> Latin American Theoretical Informatics Symposium: 2007 (2)
- *Order*: 2015
- *Random Structures Algorithms*: 2019, 2013, 2011, 2010, 2008, 2007, 2006, 2005, 2004
- *SIAM J. Discrete Math.*: 2024, 2021, 2015, 2014

External reviewer for promotion:

- Professor: 2023, 2022, 2019, 2018, 2017.
- Associate Professor: 2022 (2), 2021, 2019, 2017, 2016 (4), 2015, 2014 (2), 2012.
- Mid-tenure review: 2017, 2014.

Reviewer for grant proposals:

- Deutsche Forschungsgemeinschaft (DFG, German Research Foundation): 2024
- Israel Science Foundation (ISF): 2023.
- Deutscher Akademischer Austauschdienst (DAAD, German Academic Exchange Service) North American Selection Committee: February 2023, February 2022, February 2021.
- Agencia Nacional de Investigación y Desarrollo (Chile): 2022.
- National Sciences and Engineering Research Council (NSERC, Canada) grant proposal: 2012.
- American Mathematical Society-National Security Agency (AMS-NSA) grant proposal: 2016 (2), 2013 (2), 2011, 2010.

# Ryan R. Martin

## Service: Professional & Institutional (2)

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### Refereeing & Reviewing (Cont.)

External reviewer for Ph.D. dissertations:

- Christian Winter, Karlsruhe Institute of Technology, Germany, July 18, 2024.
- Michael Szestopalow, University of Waterloo, Canada, May 09, 2016.
- Miguel Raggi, University of British Columbia, Canada, June 28, 2011.
- (Pre-examiner) Ville Junnila, University of Turku, Finland, January 2011.
- SASTRA University, Tamilnadu, India, September 2010.

Reviewer for book proposals:

- Cambridge University Press, 2021
- Cambridge University Press, 2018
- Wiley Interscience, 2014.

### Professional Service

Invited to be member, 2016 Pólya prize committee, Society for Industrial and Applied Mathematics (SIAM). Recused.

Vice Chair of the SIAM Activity Group on Discrete Mathematics, 2012-2013.

Moderator and Webmaster for DM-Net, the forum of the SIAM Activity Group on Discrete Mathematics, 2006-2011. Over 900 subscribers.

### Graduated Students

Ph.D.: Alex Neal Riasanovsky, Mathematics Department, April 13, 2021.

Dissertation title: “Two problems in extremal combinatorics”

Ph.D.: Shanise Walker, Mathematics Department, March 27, 2018.

Dissertation title: “Problems in extremal graphs and poset theory”

Ph.D.: Zhanar Berikkyzy, Mathematics Department, May 02, 2016.

Dissertation title: “The edit distance function:

Forbidding induced powers of cycles and other questions”

Ph.D.: Kirsten Hogenson, Mathematics Department, April 12, 2016.

Dissertation title:

“Random and deterministic versions of extremal poset problems”

Ph.D.: Lucas Kramer, Mathematics Department, April 09, 2014.

Dissertation title: “On diamond-free subposets of the Boolean lattice: An application of flag algebras”

M.S.: Chelsea (Sackett) Peck, Mathematics Department, March 11, 2013.

Thesis title: “On the edit distance from a cycle- and squared cycle-free graph”

Ph.D.: Jason Smith, Mathematics Department, March 28, 2012.

Dissertation title: “Induced Saturation Number”

Ph.D.: Tracy McKay, Mathematics Department, March 27, 2012.

Dissertation title: “The edit distance function for graphs:

an exploration of the case of forbidden induced  $K_{2,t}$  and other questions”

Ph.D.: Brendon Stanton, Mathematics Department, April 07, 2011.

Dissertation title: “On Vertex Identifying Codes For Infinite Lattices”

M.S.: Laura Walters, Mathematics Department, April 16, 2008.

Creative Component title:

“Investigation of the use of finite frame theory in cryptography”

M.S.: Eric Hansen, Mathematics Department, April 30, 2007.

Creative Component title:

“Analysis of the singular value decomposition in data hiding”

M.S.: Chad Brewbaker, Computer Science Department November 15, 2005

(Co-major Profs.: R.R.M., David Fernández-Baca).

Thesis title:

“Lonesum  $(0, 1)$ -matrices and poly-Bernoulli numbers of negative index”

# Ryan R. Martin

## Service: Professional & Institutional (3)

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<b>Current Students</b>	Enrique Gomez-Leos, Mathematics Department, 2022-Present. Matthew (Nick) Veldt, Mathematics Department, 2022-Present. Conor Thompson, Mathematics Department, (joint with R. Wu), 2024-Present.
<b>Postdoc Mentorship</b>	Lina Li, Mathematics Department, 2023-Present. Emily Heath, Mathematics Department, (joint with B. Lidický), 2021-2024. Chris (Cox) Wells, Mathematics Department, 2020-2023.
<b>Faculty Mentorship</b>	Bernard Lidický, Mathematics Department, 2014-2015. Steve Butler, Mathematics Department, 2011-2012.
<b>College/Univ. Service, ISU</b>	Reviewer for Fulbright U.S. Scholar applications, 2020. University Faculty Review Board, 2017-2023. University Research Awards Committee, 2016.
<b>Departmental Service, ISU</b>	LAS Representative Assembly, August 2024-December 2024. Department website revision, September 2023-November 2023. Chair Nominating Committee, January 2022-May 2022. Discrete Mathematics Qualifying Exam Committee: <ul style="list-style-type: none"><li>• June 2022-Present.</li><li>• June 2020-May 2021.</li><li>• June 2016-May 2017. Chair.</li></ul> Local Organizing Committee for the 2017 ILAS Meeting, November 2013-August 2017. Untenured Faculty Review and Evaluation Committee, September 2011-September 2014. Discrete Math Seminar co-organizer, September 2004-May 2014. Local Organizing Committee for the 2013 AMS Spring Central Section Meeting, January 2011-May 2013. Calculus Textbook Selection Committee, October 2012-March 2013. Midwestern Graph Theory (MIGHTY) LIII Organizing Committee, March 2011-October 2012. Graduate Committee, September 2005-September 2011 (on leave, Fall 2010). Chair, September 2007-September 2009. Strategic Planning Committee, January 2009-April 2011. Awards Committee, September 2003-May 2005.  Search Committees: <ul style="list-style-type: none"><li>• Department Chair Search Committee, May 2016-February 2017.</li><li>• Department Chair Nomination Committee (chair), April 2016-May 2016.</li><li>• Discrete Math Faculty (chair), September 2013-March 2014.</li><li>• Ad-hoc Faculty, March 2013.</li><li>• Pre-calculus Coordinator, January 2012-April 2012.</li><li>• Tenure-track, September 2009-December 2009. Cancelled.</li></ul>

# Ryan R. Martin

## Service: Professional & Institutional (4)

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### Departmental Service, ISU (cont.)

#### Individual Review Teams (promotion):

- Promotion to Prof.: Bernard Lidický, April 2021-November 2021. Chair.
- Promotion to Associate Term Faculty: September 2020-Present.
- Promotion to Prof.: Steve Butler, April 2019-November 2019.
- Promotion to Prof.: Eric Weber, June 2018-November 2018.
- Promotion to Assoc. Prof.: Bernard Lidický, June 2017-November 2017. Chair.
- Promotion to Assoc. Prof.: Steve Butler, September 2015-January 2016. Chair.

#### Individual Review Teams (3-year review):

- 3 yr. review: Bernard Lidický, October 2016-March 2017. Chair.
- Promotion to Assoc. Prof.: Steve Butler, September 2015-January 2016. Chair.
- 3 yr. review: Derrick Stolee, October 2015-December 2015. Chair, cancelled.
- 3 yr. review: Tathagata Basak & Steve Butler, October 2013-April 2014.

#### Ph. D. committees:

- Matthew Dorang (Mathematics, Major Prof.: J. McCullough)
- Sydney Miyasaki (Mathematics, Major Prof.: J. Iverson)
- Alexander Parker (Mathematics, Major Prof.: S. Zerbib)
- Coy Schwieder (Mathematics, Major Prof.: S. Zerbib)
- Zachary Brennan (Mathematics, Major Profs.: D. Herzog and L. Hogben)
- Kimberly Hadaway (Mathematics, Major Prof.: S. Butler)
- Yaojie Hu (Computer Science, Major Profs.: W. Le and J. Tian)
- Daniel McGinnis, April 05, 2024 (Mathematics, Major Prof.: S. Zerbib)
- Nate Benjamin, June 20, 2022 (Mathematics, Major Prof.: S.-Y. Song)
- Diego Rojas, March 31, 2022 (Mathematics, Major Prof.: T. McNicholl)
- Seyed-Vahid Sanei-Mehri, November 19, 2021 (Computer Engineering, Major Prof.: S. Tirthapura)
- Lei Liu, November 11, 2021 (Computer Science, Major Prof.: D. Fernández-Baca)
- Ted Tranel, June 24, 2021 (Mathematics, Major Prof.: S.-Y. Song)
- Kyle Murphy, April 09, 2021 (Mathematics, Major Prof.: B. Lidický)
- Ghazaleh Parvini, January 25, 2021 (Computer Science, Major Prof.: D. Fernández-Baca)
- Isaac Wass, April 13, 2020 (Mathematics, Major Prof.: S. Butler)
- Yun Deng, April 02, 2020 (Computer Science, Major Prof.: D. Fernández-Baca)
- Joshua Carlson, April 12, 2019 (Mathematics, Major Prof.: L. Hogben)
- Emelie Curl, April 11, 2019 (Mathematics, Major Prof.: M. Young)
- Kacy Messerschmidt, April 24, 2018 (Mathematics, Major Prof.: B. Lidický)
- Robert Lazar, November 15, 2017 (Mathematics, Major Prof.: S.-Y. Song)
- Kevin Moss, March 30, 2017 (Mathematics, Major Profs.: S. Butler and B. Lidický)
- Debasis Mandal, October 09, 2015 (Computer Science, Major Prof.: P. Aduri)
- Kevin Palmowski, October 05, 2015 (Applied Mathematics, Major Prof.: L. Hogben)
- Craig Erickson, February 19, 2014 (Mathematics, Major Prof.: L. Hogben)
- Steven Osborne, November 21, 2013 (Mathematics, Major Profs.: S. Butler and L. Hogben)
- Ruchi Chaudhari, February 20, 2013 (Computer Science, Major Prof.: D. Fernández-Baca)

# Ryan R. Martin

## Service: Professional & Institutional (5)

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### Departmental Service, ISU (cont.)

#### Ph. D. committees (cont.):

- Geoff Tims, December 14, 2012 (Mathematics, Major Prof.: L. Hogben)
- Devin Bickner, April 03, 2012 (Mathematics, Major Prof.: S. Willson)
- Michelle Lastrina, March 29, 2012 (Mathematics, Major Prof.: M. Axenovich)
- JiHyeok Choi, April 13, 2011 (Mathematics, Major Prof.: M. Axenovich)
- Cuizhu Shi, April 01, 2011 (Electrical Engineering, Major Prof.: A. Ramamoorthy)
- Darren Row, March 30, 2011 (Mathematics, Major Prof.: L. Hogben)
- Yeon-Jung Seo, November 16, 2010 (Mathematics, Major Prof.: H. Levine)
- Jacob Manske, May 03, 2010 (Mathematics, Major Prof.: M. Axenovich)
- Ahmet Alturk, July 15, 2009 (Mathematics, Major Prof.: F. Keinert)
- Xiaofang Guo, July 10, 2009 (Co-major: Condensed Matter Physics & Applied Mathematics, Co-Major Profs.: J. Evans, A. Travesset)
- Jess Campbell, February 24, 2005 (Mathematics, Major Prof.: D. Ashlock)

#### Master's committees:

- Gabrielle Angeloro, December 02, 2020 (Mathematics, Major Prof.: M. Catanzaro)
- Xingyu Tong, July 12, 2018 (Mathematics, Major Prof.: J.D.H. Smith)
- Kelsey Uherka, May 10, 2013 (Mathematics, Major Prof.: S. Butler)
- Nick Pappas, July 13, 2012 (Computer Science, Major Prof.: O. Eulenstein)
- Rich McBride, July 16, 2009 (Mathematics, Major Prof.: M. Axenovich)
- Jonathan Wrolstad, March 25, 2009 (INFAS, Major Prof.: C. Bergman)
- Michael Yeboah, July 14, 2005 (Economics, Major Prof.: E.K. Choi)
- Ricky Brooks, July 09, 2004 (School Mathematics, Co-Major Profs.: H. [Thompson] Bolles and I. Hentzel)

#### First-year faculty mentor to graduate students:

- 2024-2025: Sycamore Herlihy
- 2021-2022: Sydney Miyasaki
- 2020-2021: Enrique Gomez-Leos
- 2017-2018: Elizabeth Sprangel
- 2016-2017: Alex Neal-Riasanovsky
- 2011-2012: Zhanar Berikkyzy, Steven Noren, Kelsey Uherka
- 2009-2010: Craig Erickson, Richard Troll

Preparing Future Faculty Advisee: Elizabeth Kleiman, Mathematics Department and Computer Science Department, 2006-2007.

### Departmental Service, CMU

#### Master's Dissertation committees:

- Benjamin Kane, May 03, 2002 (Major Prof.: Tom Bohman)
- Abhyudaya Agrawal, Apr. 19, 2001 (Major Prof.: Alan Frieze)

# Ryan R. Martin

## Service: Professional & Institutional (6)

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- Miscellaneous** Institute for Mathematics and Its Applications (IMA) Principal Investigators meeting, Minneapolis, MN, June 12, 2009.
- Coordinated student and faculty travel to meetings:
- EXTremal Combinatorics at ILLinois 2 (EXCILL 2), Urbana, IL, March 2013. (Obtained student funding from conference.)
  - AMS Central Section Meeting (#1069), Iowa City, IA, March 18-20, 2011.
  - SIAM Conference on Discrete Mathematics (DM10), Austin, TX, June 14-17, 2010. (Obtained student funding from conference.)
  - AMS Central Section Meeting (#1058), St. Paul, MN, April 10-11, 2010.
  - AMS Central Section Meeting (#1047), Urbana-Champaign, IL, March 27-29, 2009.
  - Random Combinatorial Structures, Lincoln, NE, April 2007. (Obtained student funding from conference.)
  - EXTremal Combinatorics at ILLinois (EXCILL), Urbana, IL, November 2006. (Obtained student funding from conference.)
  - AMS Central Section Meeting (#1001), Evanston, IL, October 2004.
- ARML high school mathematics competition:  
Head grader: UNLV site, 2011.  
Grader and assistant to the Director of Development: UNLV site, 2007-2013, 2019;  
U. of Iowa site, 2004-2006; Penn State site, 2003.
- Memberships** American Mathematical Society (AMS): 1995-present.  
Society of Industrial and Applied Mathematics (SIAM): 2000-2003; 2010-2023.  
SIAM Discrete Mathematics Activity Group Vice-Chair: 2012-2013.

# Ryan R. Martin

## Support & Recognition

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### Awards

Scott Hanna Professor, Department of Mathematics, Iowa State University, 2022-2025.  
(\$60,000)

Vinograde Award for Excellence in Advising, Mathematics Graduate Student Organization, Iowa State University, 2016.

Exemplary Faculty Mentor (Steve Butler, nominator), Iowa State University, 2014.

Mid-Career Achievement in Research, College of Liberal Arts & Sciences, 2013.

Recognized for mentorship by ‘Student Scholar and Leader’ Matthew Burmeister, Iowa State University, 2009.

Center for DIScrete MAThematics and Computer Science (DIMACS) Graduate Award, 1999: NSF grant CCR 91-19999.

Rutgers University Mathematics Department TA Teaching Award, 1999.

Excellence Fellowship, Rutgers University, 1995-1996.

Certificate of Special Merit: Outstanding accomplishment in mathematical sciences, University of Delaware, 1995.

William D. Clark Prize for Excellence in Mathematics, University of Delaware, 1995.

Stephen J. Wolfe Memorial Award (Outstanding Junior Mathematics Major), University of Delaware, 1994.

### Additional Financial Support

Institute for Mathematics and its Applications (IMA) Thematic Year on Discrete Structures: August 2014-May 2015 (Participation support, \$42,922).

National Security Agency (NSA) Grants (PI):

- Graph Tiling and Hereditary Properties (H98230-13-1-0226), December 2012 to December 2014 (Standard Grant, \$57,266).
- Extremal Graph Theory and Applications in Computer Science (H98230-08-1-0015), April 2008 to March 2010 (Young Investigator Grant, \$30,000).
- Extremal and Probabilistic Graph Theory (H98230-05-1-0257), July 2005 to June 2007 (Young Investigator Grant, \$30,000).

Conference funding for MIGHTY LIII, September 21-22, 2012:

- NSA Conference Grant, H-98230-12-1-0292 (Co-PI, with PI S. Butler and co-PI M. Young) (\$5900).
- NSF Conference Grant, DMS-1238712 (Co-PI, with PI S. Butler and co-PI M. Young) (\$9000).
- IMA Conference Grant (Co-PI, with PI M. Young and co-PI S. Butler) (\$4000).

Mathematics Department Faculty Development Award, (ISU internal): Spring 2010, Spring 2011, Spring 2012, Spring 2013.

Faculty Professional Development Assignment, (ISU internal): Fall 2019-Spring 2020, Fall 2010.

Foreign Travel Grant (ISU internal): May 2015 (\$936), April 2007 (Germany, \$542).

US Junior Oberwolfach Fellow: April 2007 (€400).

Liberal Arts and Sciences Small Grant (ISU internal): May 2005 (\$500).

Clay Mathematics Institute (CMI) Liftoff Fellow, June - August 2000.

Eugene DuPont Distinguished Memorial Scholarship, University of Delaware, 1991-1995.