

Ryan Martin

Curriculum Vitae

Department of Mathematics
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Education & Employment	Publications	Conferences & Talks	Teaching	Service	Honors & Awards	References & Skills
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Research Interests Extremal graph theory; combinatorics; regularity methods; random models; probabilistic methods.

Education *Rutgers University*
Ph.D. in Mathematics, October 2000.
Adviser: 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 advisers: Felix Lazebnik, Wenbo Li.
Thesis title: *Minimum expected time of random walks on rooted trees*

Employment History

Dates	Title	Location
Aug. 2009 - present	Associate Professor	Iowa State University
Aug. 2003 - Aug. 2009	Assistant Professor	Iowa State University
Sep. 2000 - May 2003	Zeev Nehari Visiting Assistant Professor	Carnegie Mellon University
Sep. 1995 - May 2000	Graduate Assistant/Teaching Assistant	Rutgers University

Selected Financial Support

NSF Grant (Co-PI, with PI Maria Axenovich):
Extremal Problems on Hereditary Properties and Partitions of Combinatorial Structures (DMS-0901008), August 2009 to July 2012 (\$174,993).
NSA Young Investigator Grant (PI):

- Extremal Graph Theory and Applications in Computer Science (H98230-08-1-0015), April 2008 to March 2010. (\$30,000).
- Extremal and Probabilistic Graph Theory (H98230-05-1-0257), July 2005 to June 2007 (\$30,000).

NSF Conference Grant, DMS-1238712 (Co-PI, with PI Steve Butler and co-PI Michael Young): MIGHTY LIII, September 21-22, 2012. (\$9000).
IMA Conference Grant (Co-PI, with PI Michael Young and co-PI Steve Butler): MIGHTY LIII, September 21-22, 2012. (\$4000).
Faculty Professional Development Assignment, (ISU internal) Fall 2010.
Mathematics Department Faculty Development Award, (ISU internal) Spring 2010, Spring 2011, Spring 2012.
US Junior Oberwolfach Fellow, April 2007 (€400).
Clay Mathematics Institute (CMI) Liftoff Fellow, June - August 2000.
Eugene DuPont Distinguished Memorial Scholarship, U. of Delaware, 1991-1995.

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Publications

Submitted publications:

- [34] L. Kramer, R. Martin and M. Young, On diamond-free subposets of the Boolean lattice, submitted, 22pp. [arXiv]
- [33] R. Martin and J. Smith, Induced saturation number, submitted, 14pp. [arXiv]
- [32] R. Martin, The edit distance function and symmetrization, submitted, 24pp. [arXiv]
- [31] R. Martin and Y. Zhao, Tiling tripartite graphs with 3-colorable graphs: The extreme case, submitted, 29pp. [arXiv]
- [30] R. Martin, On the computation of edit distance functions, submitted, 20pp. [arXiv]
- [29] R. Martin and T. McKay, On the edit distance from $K_{2,t}$ -free graphs, submitted, 19pp. [arXiv]

Publications to appear:

- [28] M. Axenovich and R. Martin, Multicolor and directed edit distance, *J. Comb.*, to appear, 25pp. [arXiv]

Journal publications:

- [27] M. Axenovich, R. Martin and J. Manske, Q_2 -free families in the Boolean lattice, *Order* **29**(1) (2012), pp. 177–191. [arXiv]
- [26] A. Csernenszky, R. Martin and A. Pluhár, On the complexity of Chooser-Picker positional games, *Integers* **11** (2011), Research Paper G2, 16pp. (electronic). [PrePrint]
- [25] R. Martin and B. Stanton, Lower bounds for identifying codes in some infinite grids, *Electron. J. Combin.* **17**(1) (2010), Research Paper 122, 16pp. (electronic). [PrePrint]
- [24] T. Hall, L. Hogben, R. Martin and B. Shader, Expected values of parameters associated with the minimum rank of a graph, *Linear Algebra Appl.* **433**(1) (2010), pp. 101–117. [Journal Copy]
- [23] R. Martin and Y. Zhao, Tiling tripartite graphs with 3-colorable graphs, *Electron. J. Combin.* **16**(1) (2009), Research Paper 109, 16pp. (electronic). [Journal Copy]
- [22] J. Balogh, R. Martin and A. Pluhár, The diameter game, *Random Structures Algorithms* **35**(3) (2009), pp. 369–389. [Journal Copy]
- [21] J. Balogh and R. Martin, On Avoider-Enforcer games, *SIAM J. Discrete Math.* **23**(2) (2009), pp. 901–908. [Journal Copy]
- [20] M. Axenovich, A. Kézdy and R. Martin, On the editing distance of graphs, *J. Graph Theory* **58**(2) (2008), pp. 123–138. [Journal Copy]
- [19] J. Balogh and R. Martin, Edit distance and its computation, *Electron. J. Combin.* **15**(1) (2008), Research Paper 20, 27pp. (electronic). [Journal Copy]
- [18] M. Axenovich and R. Martin, Avoiding rainbow induced subgraphs in vertex-colorings, *Electron. J. Combin.* **15**(1) (2008), Research Paper 12, 23pp. (electronic). [Journal Copy]
- [17] R. Martin and E. Szemerédi, Quadripartite version of the Hajnal-Szemerédi Theorem, *Discrete Math.* **308**(19) (2008), 4337–4360. [OffPrint] [Journal Copy]

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Publications (cont.)

Journal publications (cont.):

- [16] M. Axenovich and R. Martin, On weighted Ramsey numbers, *Australas. J. Combin.* **38** (2007), 179–194. [PrePrint]
- [15] A. Frieze, R. Martin, J. Moncel, M. Ruszinkó and C. Smyth, Codes identifying sets of vertices in random networks, *Discrete Math.* **307**(10) (2007), 1094–1107. [Journal Copy]
- [14] T. Bohman, A. Frieze, R. Martin, M. Ruszinkó and C. Smyth, On randomly generated intersecting hypergraphs II, *Random Structures Algorithms* **30**(1) (2007), 17–34. [Journal Copy]
- [13] M. Axenovich and R. Martin, Sub-Ramsey numbers for arithmetic progressions, *Graphs Combin.* **22**(3) (2006), 297–309. [Journal Copy]
- [12] M. Axenovich and R. Martin, A note on short cycles in a hypercube, *Discrete Math.* **306**(18) (2006), 2212–2218. [Journal Copy]
- [11] M. Axenovich and R. Martin, Avoiding patterns in matrices via a small number of changes, *SIAM J. Discrete Math.*, **20**(1) (2006), 49–54. [Journal Copy]
- [10] M. Axenovich and R. Martin, On the strong chromatic number, *SIAM J. Discrete Math.* **20**(3) (2006), 741–747. [Journal Copy]
- [9] R. Martin, A note on a conjecture of Gyárfás, *Ars Combin.* **79** (2006), 311–317. [PrePrint]
- [8] T. Bohman, A. Frieze, M. Krivelevich and R. Martin, Adding random edges to dense graphs, *Random Structures Algorithms* **24**(2) (2004), 105–117. [Journal Copy]
- [7] A. Frieze, M. Krivelevich and R. Martin, The emergence of a giant component in random subgraphs of pseudo-random graphs, *Random Structures Algorithms* **24**(1) (2004), 42–50. [Journal Copy]
- [6] T. Bohman, C. Cooper, A. Frieze, R. Martin and M. Ruszinkó, On randomly generated intersecting hypergraphs, *Electron. J. Combin.* **10** (2003), Research Paper 29, 10pp. (electronic). [Journal Copy]
- [5] T. Bohman and R. Martin, A note on G -intersecting families, *Discrete Math.* **260** (2003), no. 1-3, 183–188. [Journal Copy]
- [4] T. Bohman, A. Frieze and R. Martin, How many random edges make a dense graph hamiltonian?, *Random Structures Algorithms* **22**(1) (2003), 33–42. [Journal Copy]
- [3] Cs. Magyar and R. Martin, Tripartite version of the Corrádi-Hajnal theorem, *Discrete Math.* **254** (2002), no. 1-3, 289–308. [Journal Copy]
- [2] F. Lazebnik, W. Li and R. Martin, Random walks on rooted trees, *Bull. Inst. Combin. Appl.* **22** (1998), 59–66. [PrePrint]

Refereed conference proceedings:

- [1] J. Benashski, R. Martin, J. Moore and L. Traldi, On the β -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. [PrePrint]

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Publications (cont.)

Unpublished Manuscripts:

- M. Axenovich and R. Martin [A version of Szemerédi's regularity lemma for multicolored graphs and directed graphs that is suitable for induced graphs.](#) [arXiv]

Extended Abstracts:

- R. Martin (based on joint work with J. Balogh and A. Pluhár), [The diameter game](#) (extended abstract), in *Oberwolfach Reports* 4(2) (2007) 1073–1114. [PrePrint]
- A. Frieze, 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. 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.

Dissertations:

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

Publications are available by links on this document or at my website.
<http://www.math.iastate.edu/rymartin/pubs.pdf>

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Conferences and Talks

- Invited Talks**
- “On diamond-free subsets of the Boolean lattice,” Algebra and Logic Seminar, Department of Mathematics, University of South Carolina, Columbia, SC, March 16, 2012.
 - “The small world problem: Six degrees of graph theory,” MATH/CS Colloquium Presentation, Department of Mathematics and Computer Science, The Citadel, Charleston, SC, March 13, 2012.
 - “On the edit distance from $K_{2,t}$ -free graphs,” Special Section on Extremal and Probabilistic Combinatorics, AMS Central Section Meeting (#1074), Lincoln, NE, October 15, 2011.
 - “Induced saturation number,” Special Section on Extremal Combinatorics, AMS Southeastern Section Meeting (#1073), Winston-Salem, NC, September 25, 2011.
 - “Recent results on the edit distance of graphs,” Seminar, Department of Mathematics, University of British Columbia, Vancouver, BC, Canada, July 26, 2011.
 - “Induced saturation number,” Special Section on Extremal Combinatorics, AMS Western Section Meeting (#1071), Las Vegas, NV, May 1, 2011.
 - “Recent results on the edit distance of graphs,” Discrete Mathematics Seminar, Department of Mathematics, University of South Carolina, Columbia, SC, March 16, 2011.
 - “Expected value of the minimum rank of a graph,” Seminar class talk, Department of Mathematics, University of Illinois at Urbana-Champaign, Urbana, IL, November 10, 2010.
 - “ Q_2 -free families in the Boolean lattice,” Graph Theory and Combinatorics Seminar, Department of Mathematics, University of Illinois at Urbana-Champaign, Urbana, IL, November 9, 2010.
 - “Recent results on the edit distance of graphs,” Special Section on Graph Theory, AMS Southeastern Section Meeting (#1065), Richmond, VA, November 6, 2010.
 - “Vertex identifying codes in infinite grids,” Discrete Mathematics Seminar, Department of Mathematics, Virginia Commonwealth University, Richmond, VA, November 4, 2010.
 - “The small world problem: Six degrees of graph theory,” Joint Mathematics Colloquium, Millersville University/Franklin & Marshall College, Lancaster, PA, November 2, 2010.

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Conferences and Talks (cont.)

Invited Talks (cont.)

- “Recent results on the edit distance of graphs,” Combinatorics Seminar, Department of Pure Mathematics and Mathematical Statistics, University of Cambridge, Cambridge, UK, October 14, 2010.
- “Recent results on the edit distance of graphs,” Seminar on Discrete Mathematics and Game Theory, Department of Mathematics, London School of Economics and Political Science, London, UK, October 7, 2010.
- “Vertex identifying codes in infinite grids,” Discrete Geometry and Combinatorics Seminar, Department of Mathematics, University College London, London, UK, October 6, 2010.
- “Recent results on the edit distance of graphs,” Combinatorics Seminar, School of Mathematics, University of Birmingham, Birmingham, UK, October 4, 2010.
- “ Q_2 -free families in the Boolean lattice,” Combinatorics Seminar, School of Mathematical Sciences, Queen Mary College, University of London, London, UK, October 1, 2010.

- “Recent results on the edit distance of graphs,” Discrete mathematics Seminar, Department of Mathematics, University of Nebraska – Lincoln, Lincoln, NE, August 31, 2010.
- “Computing the edit distance function,” Extremal Graph Theory Minisymposium, 2010 SIAM Conference on Discrete Mathematics, Austin, TX, June 17, 2010.
- “The small world problem: Six degrees of graph theory,” Research Seminar, Mathematics, Statistics, and Computer Science Department, St. Olaf College, Northfield, MN, May 4, 2010.
- “Tiling in Multipartite Graphs,” SIAM Minisymposium on Graph Theory, 2010 Joint Meetings (#1056), San Francisco, CA, January 15, 2010.

- “Tiling in Multipartite Graphs,” Discrete Math Seminar, Texas State University, San Marcos, TX, November 13, 2009.
- “The small world problem: Six degrees of graph theory,” Convocation Series, Illinois College, Jacksonville, IL, September 7, 2009.
- “Expected value of the minimum rank of a graph,” Graph Theory and Combinatorics Seminar, Department of Mathematics, University of Illinois at Urbana-Champaign, Urbana, IL, May 19, 2009.
- “On Avoider-Enforcer games,” 33rd SIAM Southeastern-Atlantic Section Conference, Columbia, SC, April 4, 2009.
- “On Avoider-Enforcer games,” Special Session on Probabilistic and Extremal Combinatorics, AMS Central Section Meeting (#1047), Urbana, IL, March 28, 2009.

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Conferences and Talks (cont.)

Invited Talks (cont.)

- “The small world problem: Six degrees of graph theory,” Department of Mathematics and Computer Science Seminar, Central College, Pella, IA, November 18, 2008.
- “The small world problem: Six degrees of graph theory,” Department of Mathematics and Computer Science Seminar, Macalester College, St. Paul, MN, November 11, 2008.
- “On the edit distance function,” International Conference on Interdisciplinary Mathematical and Statistical Techniques, University of Memphis, Memphis, TN, May 18, 2008.
- “Tiling in multipartite graphs,” ACO (Algorithms, Combinatorics and Optimization) Seminar, Carnegie Mellon University, Pittsburgh, PA, May 1, 2008.
- “Tiling in multipartite graphs,” Graph Theory and Combinatorics Seminar, Department of Mathematics, University of Illinois at Urbana-Champaign, Urbana, IL, April 29, 2008.
- “The edit distance function,” Special Session on Graph Theory, AMS Central Section Meeting (#1038), Bloomington, IN, April 6, 2008.

- “Computing edit distance,” Applied mathematics seminar, Department of Applied Mathematics, Illinois Institute of Technology, Chicago, IL, November 20, 2007.
- “The edit distance in graphs,” Applied mathematics colloquium, Department of Applied Mathematics, Illinois Institute of Technology, Chicago, IL, November 19, 2007.
- “The edit distance in graphs,” Special Session on Extremal and Probabilistic Combinatorics, AMS Central Section Meeting (#1030), Chicago, IL, October 5-6, 2007.
- “On the edit distance in graphs,” Discrete Mathematics and Algebra Seminar, University of Delaware, Department of mathematical sciences, Newark, DE, May 11, 2007.
- “The diameter game,” Miniworkshop: Positional Games, 0715c, Mathematisches Forschungsinstitut Oberwolfach, Germany, April 8-14, 2007.
- “The diameter game,” Special Session on Graph Theory, AMS Central Section Meeting (#1025), Oxford, OH, March 16-17, 2007.

- “Vertex identifying codes and the random graph,” Computer Science department colloquium, Iowa City, IA, November 4, 2005.
- “Vertex identifying codes and the random graph,” Discrete mathematics and algebra seminar, University of Delaware, Department of mathematical sciences, Newark, DE, May 15, 2005.
- “Online intersecting hypergraphs,” Mathematics seminar, Department of Mathematics, Statistics and Computer Science, University of Illinois at Chicago, Chicago, IL, March 16, 2005.
- “Six degrees of graph theory: Kevin Bacon, Paul Erdős, William McKinley and me,” Central College mathematics seminar, February 1, 2005.

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Conferences and Talks (cont.)

Invited Talks (cont.)

- “It’s raining hyperedges: Online intersecting hypergraphs beyond the threshold,” AMS Central Section Meeting (#1001), Evanston, IL, October 23-24, 2004.
- “On the editing distance in graphs,” Mathematics seminar, Department of Mathematics, Statistics and Computer Science, University of Illinois at Chicago, Chicago, IL, March 17, 2004.
- “The regularity lemma, the blow-up lemma and a conjecture of Corrádi and Hajnal,” Discrete mathematics and algebra seminar, University of Delaware, Department of mathematical sciences, Newark, DE, May 1999.

Contributed Talks

- “Expected value of the minimum rank of a graph,” 22nd Cumberland Conference on Combinatorics, Graph Theory and Computing, Bowling Green, KY, May 21, 2009.
- “On the edit distance function for graphs,” Fete of Combinatorics and Computer Science, Organized by the Rényi Institute, Keszthely, Hungary, August 12, 2008.
- “The edit distance in graphs,” (Your Regular) Workshop on Extremal Graphs and Hypergraphs, Pittsburgh, PA, May 5, 2007.
- “Recent results on packing problems in multipartite graphs,” Horizons of Combinatorics, Balatonalmádi, Hungary, July 19, 2006.
- “Vertex identifying codes and the random graph,” MIGHTY XLII, Marion, OH, April 29, 2006.
- “Vertex identifying codes and the random graph,” MAA-Iowa conference, Ames, IA, April 7, 2006.
- “The editing distance in graphs,” Rocky mountain discrete mathematics days, Laramie, WY, August 2, 2005.
- “Vertex identifying codes and the random graph,” WaterMellon conference, Pittsburgh, PA, May 21, 2005.
- “Vertex identifying codes and the random graph,” Brualdi-fest, Madison, WI, April 30, 2005.
- “Six degrees of graph theory: Kevin Bacon, Paul Erdős, William McKinley and me,” MAA-Iowa conference, April 17, 2004.
- “On the editing distance in graphs,” Conference on extremal combinatorics honoring 200 years of Peter Frankl, Zoltán Füredi, Ervin Győri and János Pach, Rényi Institute, Budapest, Hungary, April 5, 2004.
- “You’ve got Erdős-Ko-Radó: Intersecting hypergraphs online,” MIGHTY XXXVII, Valparaiso, IN, September 20, 2003.
- “Antiramsey Numbers,” AMS Central Section Meeting (#985), Bloomington, IN, April 5, 2003.
- “How many random edges make a dense graph Hamiltonian?,” SIAM Conference on Discrete Mathematics, San Diego, CA, August 14, 2002.

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Conferences and Talks (cont.)

- Contributed Talks (cont.)** “On the β -invariant for graphs,” Southeastern International Conference on Combinatorics, Graph Theory and Computing, Boca Raton, FL, March 1995.
- Other Conferences Attended**
- AMS Central Section Meeting (#1069), Iowa City, IA, March 18-20, 2011.
- Szemerédi70: A conference in honor of the 70th birthday of Endre Szemerédi, Organized by the Rényi Institute and held at the Gólyavár at Eötvös Lóránd University, Budapest, Hungary, August 2-6, 2010.
- Theory and Applications of Matrices Described by Patterns, Banff International Research Station (BIRS) workshop, Banff, Alberta, Canada, January 31-February 5, 2010.
- Building Bridges: A conference on Mathematics and computer science in honor of Laci Lovász, Partially organized by the Rényi Institute and held at the Gólyavár at Eötvös Lóránd University, Budapest, Hungary, August 5-9, 2008.
- New Directions in Algorithms, Combinatorics and Optimization, Georgia Institute of Technology, Atlanta, GA, May 5-9, 2008.
- Random Combinatorial Structures, University of Nebraska-Lincoln, Lincoln, NE, April 20-22, 2007.
- EXCILL: Extremal Combinatorics at Illinois, University of Illinois at Urbana-Champaign, Urbana, IL, November 18-20, 2006.
- Horizons of Combinatorics (Summer School), Rényi Institute, Budapest, Hungary, July 10-14, 2006.
- FriezeFest, Carnegie Mellon University, Pittsburgh, PA, October 21-22, 2005.
- Paul Erdős and his Mathematics, Rényi Institute, Hungarian Academy of Sciences, Budapest, Hungary, July 1999.
- Teaching-learning conference, Rutgers University, New Brunswick, NJ, January 1998.
- Seminar Talks**
- “More on vertex identifying codes and related parameters,” **ISU** discrete math seminar, February 7, 2012.
- “Vertex identifying codes and random graphs,” Electrical and Computer Engineering Department Faculty Seminar, February 6, 2012.
- “Fractional version of the multipartite Hajnal-Szemerédi theorem,” **ISU** discrete math seminar, November 8, 2011.
- “Random partitions of regular pairs,” **ISU** probability seminar, November 7, 2011.
- “Using localization to compute edit distance II,” **ISU** discrete math seminar, January 25, 2011.
- “Using localization to compute edit distance I,” **ISU** discrete math seminar, January 18, 2011.
- “On the structure of almost all graphs in a hereditary property,” **ISU** probability seminar, December 6, 2010.
- “Entropy and counting,” **ISU** discrete math seminar, April 13, 2010.
- “The entropy method and the number of independent sets in a regular graph,” **ISU** discrete math seminar, March 23, 2010.
- “The Hoffman-Singleton theorem,” **ISU** discrete math seminar, January 19, 2010.

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Conferences and Talks (cont.)

- Seminar Talks (cont.)**
- “Tiling on multipartite graphs,” **ISU** discrete math seminar, September 1, 2009.
 - “On the minimum rank of graphs,” **ISU** discrete math seminar, April 14, 2009.
 - “On Avoider-Enforcer games,” **ISU** discrete math seminar, March 31, 2009.

 - “The edit distance in graphs,” **ISU** Mathematics Department Colloquium, October 27, 2008.
 - “Counting the number of regions formed by circles in the plane,” Pi Mu Epsilon Seminar, **ISU**, October 19, 2008.
 - “The vertex Ramsey problem,” **ISU** discrete math seminar, February 19, 2008.

 - “The edit distance in graphs,” **ISU** graduate student seminar, October 19, 2007.
 - “Edit distance in graphs: Colored regularity graphs,” **ISU** discrete math seminar, October 2, 2007.
 - “Some intriguing open problems regarding positional games,” **ISU** discrete math seminar, April 17, 2007.
 - “Beauty is rare: The Hoffman-Singleton theorem,” **ISU** discrete math seminar, February 6, 2007.

 - “The diameter game,” **ISU** discrete math seminar, November 14, 2006.
 - “Generalized tic-tac-toe: Introduction to Positional Games and probabilistic intuition,” **ISU** discrete math seminar, November 7, 2006.
 - “Introduction to expander graphs,” **ISU** discrete math seminar, April 17, 2006.
 - “Smoothed analysis of graphs,” **ISU** discrete math seminar, March 20, 2006.
 - “On the editing distance in graphs,” **ISU** discrete math seminar, March 10, 2006.

 - “An application of Szemerédi’s regularity lemma,” **ISU** discrete math seminar, November 1 & 8, 2005.
 - “The small world problem and so much more! $6^{6^{6^{\dots}}}$ degrees of graph theory,” **ISU** graduate student seminar, October 19, 2005.
 - “The small world problem: Kevin Bacon, Paul Erdős, William McKinley, and me – 5 degrees of graph theory,” **ISU** summer seminar series (Related to the REU), July 14, 2005.
 - “Identification codes and superimposed codes,” **ISU** discrete math seminar, Feb. 10 & 17, 2005.

 - “Report on the extremal combinatorics session of the Central Section Meeting of the AMS,” **ISU** discrete math/theory of computing seminar, October 29, 2004 (with M. Axenovich, A. Wangsness).
 - “Vertex identification codes in graphs,” **ISU** discrete math/theory of computing seminar, October 15, 2004.
 - “Six degrees of graph theory: Kevin Bacon, Paul Erdős, William McKinley and me,” **ISU** graduate student seminar, October 6, 2004.
 - “Online intersecting hypergraphs II,” **ISU** discrete math/theory of computing seminar, August 27, 2004.
 - “On the editing distance in graphs, part II,” **ISU** discrete math/theory of computing seminar, February 6, 2004.

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Conferences and Talks (cont.)

- Seminar Talks (cont.)**
- “You’ve got Erdős-Ko-Radó: Intersecting hypergraphs online,” **ISU** combinatorics/algebra seminar, November 10, 2003.
 - “Report from the 37th Midwestern Graph Theory Conference,” **ISU** combinatorics/algebra seminar, September 29, 2003 (with M. Axenovich).
 - “Six degrees of graph theory: Kevin Bacon, Paul Erdős, William McKinley and me,” **CMU** mathematics undergraduate seminar, February, 2003.
 - “The regularity lemma,” **CMU** mathematics colloquium, March 2002.
 - “The Shannon capacity and Ramsey theory,” **RU** graduate student seminar, December 1998.

- Job Interview Talks**
- “The regularity lemma and applications”
 - University of Alabama in Huntsville, Huntsville, AL, March 2003.
 - Iowa State University, March 2003.
 - University of Delaware, Newark, DE, February 2003.
 - Louisville University, Louisville, KY, February 2003.

Some talks are written in Beamer or Prosper and are available by links on this document or at my website.
<http://www.math.iastate.edu/rymartin/pubs.pdf>

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Courses Taught

	Semester and Year	Course #: Course Title	Total Enrollment
ISU:	F 2011	M166 G: Calculus II M166 B: Calculus II	
	S 2011	M606: Enumerative Combatorics and Partially Ordered Sets	6
	S 2010	M608X: Extremal Graph Theory	7
	F 2009	M265 H: Calculus III M301 A: Abstract Algebra	189 14
	S 2009	M606: Enumerative Combatorics and Partially Ordered Sets	7
	F 2008	M165 H: Calculus I M301 C: Abstract Algebra	192 9
	S 2008	M608X: Extremal Graph Theory	9
	F 2007	M265 F1: Calculus III M304: Introductory Combinatorics	38 13
	S 2007	M606: Enumerative Combatorics and Partially Ordered Sets	10
	F 2006	M165 A: Calculus I M165 H: Calculus I	189 184
	S 2006	M690I: Extremal Graph Theory	6
	F 2005	M265 B: Calculus III M301 C: Abstract Algebra	181 18
	S 2005	M301 B: Abstract Algebra	23
	F 2004	M304: Introductory Combinatorics M307 A: Matrix Algebra	22 34
	S 2004	M317 A: Linear Algebra	22
	F 2003	M165 A8: Calculus I	39
	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

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Service: Professional and Institutional

Graduated Students	Ph.D.: Jason Smith, Mathematics Department, March 28, 2012. Ph.D.: Tracy McKay, Mathematics Department, March 27, 2012. Ph.D.: Brendon Stanton, Mathematics Department, April 7, 2011. M.S.: Laura Walters, Mathematics Department, April 16, 2008. M.S.: Eric Hansen, Mathematics Department, April 30, 2007. Preparing Future Faculty Advisee: Elizabeth Kleiman, Mathematics Department and Computer Science Department, 2006-2007. M.S.: Chad Brewbaker, Computer Science Department November 15, 2005 (Co-major Profs.: R.M., David Fernández-Baca).
Current Students	M.S. student: Chelsea (Sackett) Peck, Mathematics Department. Ph.D. student: Lucas Kramer, Mathematics Department.
Faculty Mentorship	Steve Butler 2011-2012.
Memberships	American Mathematical Society (AMS), 1995-present. Society of Industrial and Applied Mathematics (SIAM), 2000-2003; 2010-present.
Conferences Organized	Local organizing committee, AMS Western Section Meeting (#1090), Ames, IA, April 27-28, 2011. Co-organizer, MIGHTY LIII, Ames, IA, September 21-22, 2012. Co-organized with Steve Butler and Michael Young. Special Session on Extremal Combinatorics, AMS Western Section Meeting (#1071), Las Vegas, NV, April 31-May 1, 2011. Co-organized with J. Balogh. Special Session on Probabilistic and Extremal Combinatorics, AMS Central Section Meeting (#1058), St. Paul, MN, April 10-11, 2010. Co-organized with M. Axenovich.
Professional Service	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.
Refereeing & Reviewing	Reviewer for NSERC (Canada) grant proposal: January 2012. External reviewer for Ph.D. dissertation, Miguel Raggi, University of British Columbia, Canada, July 2011. Reviewer for AMS-NSA grant proposal: April 2010, February 2011. Pre-examiner for Ph.D. dissertation, Ville Junnila, University of Turku, Finland, December 2010. External reviewer for Ph.D. dissertation, SASTRA University, Tamilnadu, India, September 2010.

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Service: Professional and Institutional (cont.)

Refereeing & Reviewing (cont.)

Referee for papers:

- **2012:** *Discrete Appl. Math., Electron. J. Combin.*
- **2011:** *J. Combin. Theory Ser. B, Discrete Optim., Random Structures Algorithms*
- **2010:** *Discrete Math. Theor. Comput. Sci., J. Combin. Theory Ser. A, Random Structures Algorithms, Electron. J. Combin.* (3 papers), *Discrete Math.* (2 papers)
- **2009:** *Bull. Iranian Math. Soc., Electron. J. Combin., Canad. Math. Bull., J. Combin. Theory Ser. B*
- **2008:** *J. Graph Theory, J. Combin. Theory Ser. A, Random Structures Algorithms, J. Appl. Math. Comput., Discrete Math.*
- **2007:** *Electron. J. Combin., Discrete Appl. Math., LATIN '08: the 8th Latin American Theoretical Informatics Symposium* (2 papers), *J. Graph Theory, IEEE Transactions on Information Theory, Random Structures Algorithms, Discrete Appl. Math.*
- **2006:** *J. Appl. Math. Comput., Random Structures Algorithms*
- **2005:** *Discrete Math., Random Structures Algorithms*
- **2004:** *Random Structures Algorithms*, Special volume of *Discrete Math.* in honor of Miklós Simonovits
- **2003:** *Electron. J. Combin., Discrete Math.*

Departmental Service, ISU

Pre-calculus Coordinator Search Committee, January 2012-present.

Untenured Faculty Review and Evaluation Committee, September 2011-present.

Committee on AMS Section Meeting, January 2011-present.

Graduate Committee, September 2005-September 2011 (on leave, Fall 2010).

Chair, September 2007-September 2009.

Strategic Planning Committee, January 2009-April 2011.

Tenure-track Search Committee, September 2009-December 2009.

Awards Committee, September 2003-May 2005.

Founding organizer of Discrete Math/Theory of Computing Seminar, September 2004-December 2004. Co-administrator of Discrete Math Seminar, January 2005-present.

Ph. D. committees:

- Nicole Kinglsey (Mathematics, Major Prof.: Leslie Hogben)
- Steven Osborne (Mathematics, Major Profs.: Steve Butler and Leslie Hogben)
- Geoff Tims (Mathematics, Major Prof.: Leslie Hogben)
- Craig Erickson (Mathematics, Major Prof.: Leslie Hogben)

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Service: Professional and Institutional (cont.)

Departmental Service, ISU (cont.)

Ph. D. committees (cont.):

- Devin Bickner, April 3, 2012 (Mathematics, Major Prof.: Stephen Willson)
- Michelle Lastrina, March 29, 2012 (Mathematics, Major Prof.: Maria Axenovich)
- JiHyeok Choi, April 13, 2011 (Mathematics, Major Prof.: Maria Axenovich)
- Cuizhu Shi, April 1, 2011 (Electrical Engineering, Major Prof.: Aditya Ramamoorthy)
- Darren Row, March 30, 2011 (Mathematics, Major Prof.: Leslie Hogben)
- Yeon-Jung Seo, November 16, 2010 (Mathematics, Major Prof.: Howard Levine)
- Jacob Manske, May 3, 2010 (Mathematics, Major Prof.: Maria Axenovich)
- Ahmet Alturk, July 15, 2009 (Mathematics, Major Prof.: Fritz Keinert)
- Xiaofang Guo, July 10, 2009 (Co-major: Condensed Matter Physics & Applied Mathematics, Co-Major Profs.: James Evans, Alex Travesset)
- Jess Campbell, February 24, 2005 (Mathematics, Major Prof.: Dan Ashlock)

Master's committees:

- Adam Paulson (School Mathematics, Major Prof.: Irvin Hentzel)
- Nick Pappas (Computer Science, Major Prof.: Oliver Eulenstein)
- Debasis Mandal (Computer Science, Major Prof.: Pavan Aduri)
- Jianrong Dong (Computer Science, Major Prof.: David Fernández-Baca)
- Rich McBride, July 16, 2009 (Mathematics, Major Prof.: Maria Axenovich)
- Jonathan Wrolstad, March 25, 2009 (INFAS, Major Prof.: Clifford Bergman)
- Michael Yeboah, July 14, 2005 (Economics, Major Prof.: E. Kwan Choi)
- Ricky Brooks July 9, 2004 (School Mathematics, Co-Major Profs.: Heather Johnston, Irvin Hentzel)

Other committees, did not finish:

- Doug Ray (Ph.D., 2003-2006, major professor)
- Tim Zick (Ph.D., 2003-2005)

First-year faculty mentor to graduate students:

- 2011-2012: Zhanar Berikkyzy, Steven Noren, Kelsey Uherka
- 2009-2010: Craig Erickson, Richard Troll (2009-2010)

Departmental Service, CMU

Master's Dissertation committees:

- Benjamin Kane, May 3, 2002 (Major Prof.: Tom Bohman)
- Abhyudaya Agrawal, Apr. 19, 2001 (Major Prof.: Alan Frieze)

Departmental Service, RU

Rutgers/DIMACS REU, Piscataway, NJ: Chief coordinator, 1998; co-coordinator, 1999.

Graduate office space coordinator, 1999-2000.

TA Liaison Committee representative, 1997-1998.

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Service: Professional and Institutional (cont.)

- Miscellaneous** Institute for Mathematics and Its Applications (IMA) Principal Investigators meeting, Minneapolis, MN, June 12, 2009.
- Coordinated student and faculty travel to meetings:
- AMS Central Section Meeting (#1069), Iowa City, IA, Mar. 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, Apr. 10-11, 2010.
 - AMS Central Section Meeting (#1047), Urbana-Champaign, IL, Mar. 27-29, 2009.
 - Random Combinatorial Structures, Lincoln, NE, Apr. 2007. (Obtained student funding from conference.)
 - EXCILL, Urbana, IL, Nov. 2006. (Obtained student funding from conference.)
 - AMS Central Section Meeting (#1001), Evanston, IL, Oct. 2004.
- ARML high school mathematics competition:
- Head grader: UNLV site, 2011.
- Grader and assistant to the Director of Development: UNLV site, 2011,2010,2009,2008,2007; U. of Iowa site, 2006,2005,2004; Penn State site, 2003.

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Honors and Awards

Honors & Awards	Recognized for mentorship by ISU 'Student Scholar and Leader' Matthew Burmeister. DIMACS Graduate Award, 1999: NSF grant CCR 91-19999. Rutgers Mathematics Department TA Teaching Award, 1999. Excellence Fellowship, Rutgers U., 1995-1996. Certificate of Special Merit: Outstanding accomplishment in mathematical sciences, U. of Delaware, 1995. William D. Clark Prize for Excellence in Mathematics, U. of Delaware, 1995. Stephen J. Wolfe Memorial Award (Outstanding Junior Mathematics Major), U. of Delaware, 1994. Eugene Du Pont Distinguished Memorial Scholarship, U. of Delaware, 1991-1995.
Additional Financial Support	Foreign Travel Grant (ISU internal), April 2007 (\$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. NSF VIGRE award 2000-2003: DMS-9819950.

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- References**
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- Prof. Alan Frieze* (412) 268-8476 af1p@random.math.cmu.edu
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- Prof. Dr. Angelika Steger* +41-44-632 04 97 steger@inf.ethz.ch
Institute of Theoretical Computer Science
ETH Zentrum, CAB H19.2
Universitätstrasse 6
CH - 8092 Zurich
- Dr. Miklós Ruzsínkó* 36-1-4665644/217 ruszinko@sztaki.hu
Computer and Automation Research Institute (SZTAKI) of the
Hungarian Academy of Sciences
Budapest, P.O.B. 63, H-1518
Hungary
- Prof. Russell Walker* (412) 268-9657 rw1k@andrew.cmu.edu
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Pittsburgh, PA 15213-3890

Computing Skills Proficient using Prosper, a \LaTeX -based document preparation system that functions similarly to PowerPoint.
Proficient in Maple and HTML. Limited proficiency in C++.