

Elliot Krop

EDUCATION

Ph.D. in Mathematics, University of Illinois at Chicago, 2007

M.S. in Mathematics, DePaul University at Chicago, 1997

B.A. in Mathematics, DePaul University at Chicago, 1996

B.A. in Psychology, DePaul University at Chicago, 1996

THESIS

“Enumerating Matchings in Regular Graphs”, Dr. Shmuel Friedland, advisor

ACADEMIC EXPERIENCE

Assistant Professor	Clayton State University	2008 – Present
Instructor	Loyola University at Chicago	2006 – 2008
Research Staff	Los Alamos National Laboratory	2006 Summer
Teaching Assistant	University of Illinois at Chicago	2004 – 2006
Visiting Scholar/Instructor	University of Missouri at Columbia	2003 – 2004
Teaching Assistant	Washington University in St. Louis	2000 – 2003
Research Assistant to Dr. Nets Katz		
Teaching Assistant	University of Illinois at Chicago	1997 – 2000
Research Assistant to Dr. Nets Katz		
Statistical Assistant to Dr. C. Georgakis	DePaul University	1996

PUBLICATIONS

14. "The Regular Grid Domination Number," Minh Dang, Elliot Krop; in preparation.
13. "On anti-Ramsey numbers for complete bipartite graphs and the Turán function," Elliot Krop, Michelle York; submitted.
URL: <http://arxiv.org/abs/1108.5204>
12. "Sequences of Matchings in Path-Type Graphs," Sarah Holliday, Elliot Krop; *Congressus Numerantium*, accepted (2011).
URL: <http://cims.clayton.edu/ekrop/HollidayKropMatchingsPathType.pdf>
11. "Some work on a problem of Marco Buratti," Elliot Krop, Brandi Luongo; submitted.
URL: <http://arxiv.org/abs/1106.0624>
10. "On the edge-balanced index sets of complete bipartite graphs," Elliot Krop, Keli Sikes; *Congressus Numerantium*, accepted (2011).
URL: <http://arxiv.org/abs/1106.1085>
9. "On super edge-graceful trees of diameter four," Elliot Krop, Fedelis Mutiso, Christopher Raridan; *Congressus Numerantium*, accepted (2011).
URL: <http://arxiv.org/abs/1106.3063>
8. "Almost-Rainbow edge-coloring of some small subgraphs," Elliot Krop, Irina Krop; submitted.
URL: <http://arxiv.org/abs/0803.0572>
7. "On the edge-balance index sets of product graphs," Elliot Krop, Sin-Min Lee, Christopher Raridan; *Journal of the Indonesian Mathematical Society*, accepted (2011).
URL: <http://arxiv.org/abs/1103.4994>
6. "On the number of unlabeled vertices in edge-friendly labelings of graphs," Elliot Krop, Sin-Min Lee, Christopher Raridan; *Discrete Mathematics*, accepted (2010).
URL: [http://cims.clayton.edu/ekrop/UnlabeledVerticesGeneral\[1\].pdf](http://cims.clayton.edu/ekrop/UnlabeledVerticesGeneral[1].pdf)
5. "Nonmedian Direct Products of Graphs with Loops," Kristi Clark, Elliot Krop; *Ars Combinatoria*, accepted (2010).
URL: <http://cims.clayton.edu/ekrop/Nonmedian Direct Products of Graphs with Loopsfinal.pdf>
4. "On the Number of Matchings in Regular Graphs," Shmuel Friedland, Elliot Krop, Klas Markström; *Electronic Journal of Combinatorics*, 15 (2008), #R110, 1-28.
URLs: http://cims.clayton.edu/ekrop/Number_of_Matchings.pdf
<http://arxiv.org/abs/0801.2256>
3. "Validations of the Asymptotic Matching conjectures," S. Friedland, E. Krop, P.H. Lundow, K. Markstrom; *Journal of Statistical Physics*, 133(3):513-533, 2008.
URLs: <http://cims.clayton.edu/ekrop/torgprh-070615.pdf>
<http://front.math.ucdavis.edu/math.CO/0603001>

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2. "Exact Conditions for Countable Inclusion-Exclusion Identity and Extensions," Shmuel Friedland, Elliot Krop; *International Journal of Pure and Applied Mathematics*, 29 (2006), 177-182.

URLs: <http://cims.clayton.edu/ekrop/inclexcl8.8.05.pdf>
<http://front.math.ucdavis.edu/math.PR/0602035>

1. "Remarks on the Box Problem," Nets Hawk Katz, Elliot Krop, and Mauro Maggioni; *Mathematical Research Letters* 9, 515-519 (2002).

URL: <http://cims.clayton.edu/ekrop/2002-009-004-011.pdf>

CURRENT PROJECTS

Distance coloring of hypercubes

Hamiltonian labeling problem of Marco Buratti

Determination of the edge-balance index set for various graphs

Classification of median graphs

Improvements on lower bounds of Ramsey and generalized Ramsey numbers.

Enumerating matchings in cubic graphs.

TALKS GIVEN

"On the edge-balanced index set of complete graph products," MAA Southeastern Section Spring 2011 meeting, Tuscaloosa, AL, April 2011

"On the edge-balanced index set of complete graph products," 42nd Southeastern International Conference on Combinatorics, Graph Theory, and Computing, Boca Raton, FL, March 2011

"Almost-Rainbow edge-coloring of some small subgraphs," Joint Mathematical Meeting, New Orleans, LA, January 2011

"Nonmedian Direct Products of Graphs with Loops," Mighty L Midwest Graph Theory Conference, University of Wisconsin-Superior, October 2010

"On the edge-balanced index set of product graphs," International Workshop on Graph Labelings, University of Minnesota-Duluth, October 2010

"On the number of unlabeled vertices in edge-friendly labelings of graphs," Combinatorics 2010, Verbania, Italy, July 2010

"How Many Edge-Colors for Almost-Rainbow K_5 s," Clayton State University, May 2008

"Enumerating Matchings in Regular Graphs," University of Illinois at Chicago, August 2007 (Thesis Defense).

“Partial Matchings and Generalizations,” Center for Communications Research LaJolla, April 2006.

“Lower Bounds for Partial Matching in Regular Bipartite Graphs with Application to the Monomer-Dimer Problem,” the Fields Institute for Research in Mathematical Sciences, 7th IMACS International Symposium on Iterative Methods in Scientific Computing – Toronto, May 2005.

“Partial Matchings in Regular Bipartite Graphs,” University of Wisconsin in Madison – Brualdifest: Linear Algebra, Graph Theory and Combinatorics Conference, May 2005.

“On the Sums-Differences Lemma,” Washington University, Spring 2002.

“On a Problem of Erdos,” Washington University, Fall 2001.

“On the Box Problem of Erdos,” Workshop in Fourier Analysis and Convexity June 11 - 22, 2001, Universita di Milano-Bicocca - Milan, Italy.

CONFERENCES ATTENDED

MAA Southeastern Section Spring 2011 meeting, Tuscaloosa, AL, April 2011

42nd Southeastern International Conference on Combinatorics, Graph Theory, and Computing, Boca Raton, FL, March 2011

Joint Mathematical Meeting, New Orleans, LA, January 2011

Mighty L Midwest Graph Theory Conference, University of Wisconsin-Superior, October 2010

International Workshop on Graph Labelings, University of Minnesota-Duluth, October 2010

7th International Conference on Lattice Paths Combinatorics and Applications, Siena, Italy, July 2010.

Combinatorics 2010, Verbania, Italy, July 2010.

Forty-First Southeastern International Conference on Combinatorics, Graph Theory, and Computing, Boca Raton, March 2010.

The Fields Institute for Research in Mathematical Sciences, 7th IMACS International Symposium on Iterative Methods in Scientific Computing – Toronto, May 2005.

Brualdifest: Linear Algebra, Graph Theory and Combinatorics Conference, University of Wisconsin in Madison, May 2005.

Harmonic Analysis and PDEs, May 8-11, 2003, Columbia, Missouri.
Organizer: Alex Iosevich

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Combinatorial and Number-Theoretic Methods in Harmonic Analysis, February 15 - April 15, 2003, Erwin Schrodinger Institute, Vienna.

Organizers: Alex Iosevich, Izabella Laba, Detlef Mueller

Combinatorial Aspect of Mathematical Analysis, March 26 - April 4, 2002, ICMS instructional conference, Edinburgh.

Workshop in Fourier Analysis and Convexity June 11 - 22, 2001, Universita di Milano-Bicocca - Milan, Italy.

COURSES TAUGHT

- Precalculus
- Elements of Calculus I
- Differential Calculus
- Integral Calculus
- Multivariable Calculus
- Discrete Mathematics
- Finite Mathematics
- College Algebra
- Probability and Statistics
- Statistics
- Business Calculus
- Advanced Mathematics for Business
- Maple Based Computer Lab for Multivariable Calculus
- Geometry
- Combinatorics
- Graph Theory

TEACHING AWARD

Recipient of the Washington University Macdowell Teaching Award.

RELATED EXPERIENCE

Statistical Consultant for Anthony Shafton, publication "Dreams in African-American Life and Literature," Wiley.