

Landon Rabern

CONTACT INFORMATION	314 Euclid Ave. Lancaster, PA 17603	<i>email:</i> landon.rabern@gmail.com <i>math:</i> https://sites.google.com/site/landonrabern <i>code:</i> https://github.com/landon
RESEARCH INTERESTS	Structural and extremal graph theory, particularly graph coloring. Infinite semantic paradoxes. Algorithms in group theory. Automated theorem proving.	
EDUCATION	Ph.D., Mathematics. Arizona State University, 2011 - 2013. <ul style="list-style-type: none">• Dissertation: <i>Coloring graphs from almost maximum degree sized palettes</i>• Advisor: Hal Kierstead M.A., Mathematics. University of California, Santa Barbara, 2003 - 2005. B.A., Mathematics. Washington University in St. Louis, 1999 - 2003.	
EMPLOYMENT	Franklin & Marshall College Math & Computer Science Department <i>Adjunct Assistant Professor</i>	2015
	LBD Data <i>Owner / Software Architect</i>	2008 - 2015
	Arizona State University School of Mathematical and Statistical Sciences <i>Teaching Assistant</i>	2011 - 2012
	Wall Street On Demand <i>Senior Software Engineer</i>	2010 - 2011
	Synaptics <i>Software Engineer</i>	2009 - 2010
	Wall Street On Demand <i>Software Engineer</i>	2007 - 2009
	L-3 Communications - Applied Technologies Division <i>Scientific Programmer, Security Clearance—Secret</i>	2005 - 2007
	University of California, Santa Barbara Department of Mathematics <i>Instructor / Teaching Assistant</i>	2003 - 2005
PUBLICATIONS	<ul style="list-style-type: none">[1] D.W. Cranston and L. Rabern. A note on coloring vertex-transitive graphs. <i>Electron. J. Combin.</i>, Forthcoming.[2] D.W. Cranston and L. Rabern. Conjectures equivalent to the Borodin-Kostochka conjecture that appear weaker. <i>European J. Combinatorics</i>, Volume 44, Part A, February 2015, Pages 2342.[3] D.W. Cranston and L. Rabern. Brooks' Theorem and Beyond. <i>J. Graph Theory</i>, Forthcoming.	

- [4] L. Rabern. A game generalizing Hall's theorem. *Discrete Math.*, **320**(6):87-91, 2014.
 - [5] L. Rabern. Coloring graphs with dense neighborhoods. *J. Graph Theory*, **76**(4):323-340, 2014.
 - [6] L. Rabern. A different short proof of Brooks' theorem. *Discuss. Math. Graph Theory*, **34**(3), 2014.
 - [7] L. Rabern. Partitioning and coloring graphs with degree constraints. *Discrete Math.*, **313**(9): 1028-1034, 2013.
 - [8] D.W. Cranston and L. Rabern. Coloring claw-free graphs with $\Delta - 1$ colors. *SIAM J. Discrete Math.*, **27**(1):534-549, 2013.
 - [9] L. Rabern, B. Rabern, and M. Macauley. Dangerous reference graphs and semantic paradoxes. *J. Philos. Logic*, **42**(5):727-765, 2013.
 - [10] L. Rabern. Destroying non-complete regular components in graph partitions. *J. Graph Theory*, **72**(2):123-127, 2013.
 - [11] A.V. Kostochka, L. Rabern and M. Stiebitz. Graphs with chromatic number close to maximum degree. *Discrete Math.*, **312**(6):1273-1281, 2012.
 - [12] L. Rabern. A strengthening of Brooks' Theorem for line graphs. *Electron. J. Combin.*, N145, **18** (1), 2011.
 - [13] L. Rabern. Δ -Critical graphs with small high vertex cliques. *J. Combin. Theory Ser. B*, **102** (1):126-130, 2012.
 - [14] L. Rabern. On hitting all maximum cliques with an independent set. *J. Graph Theory*, **66**(1): 32-37, 2011.
 - [15] L. Rabern. A note on Reed's conjecture. *SIAM J. Discrete Math.*, **22**(2):820-827, 2008.
 - [16] B. Rabern and L. Rabern. A simple solution to the hardest logic puzzle ever. *Analysis*, **68**(2), April 2008.
 - [17] L. Rabern. Applying Groebner basis techniques to group theory. *J. Pure Appl. Algebra*, **210** (1):137-140, 2007.
 - [18] L. Rabern. The Borodin-Kostochka conjecture for graphs containing a doubly critical edge. *Electron. J. Combin.*, N22, **14** (1), 2007.
 - [19] D. Gernert and L. Rabern. A knowledge-based system for graph theory, demonstrated by partial proofs for graph-colouring problems. *Comm. Math. Comput. Chem.*, **58**, N2 2007.
 - [20] L. Rabern. On graph associations. *SIAM J. Discrete Math.*, **20** (2):529-535, 2006.
 - [21] L. Rabern. Properties of magic squares of squares. *Rose Hulman Undergraduate J. Math.*, **4**(1), 2003.
- UNDER REVIEW
- [22] D.W. Cranston and L. Rabern. The fractional chromatic number of the plane.
 - [23] D.W. Cranston and L. Rabern. Planar graphs are $9/2$ -colorable and have independence ratio at least $3/13$.
 - [24] D.W. Cranston and L. Rabern. Graphs with $\chi = \Delta$ have big cliques.
 - [25] D.W. Cranston and L. Rabern. Painting squares in $\Delta^2 - 1$ shades.

TEACHING	<ul style="list-style-type: none"> • Graduate Graph Theory • Graduate Group Theory, Ring Theory and Field Theory • Logic and Proofs • Linear Algebra • Differential Equations • Calculus I, II and III
PEER REVIEWS	<ul style="list-style-type: none"> • Journal of Graph Theory • Discrete Math • Synthese • Minds and Machines • SIAM Journal on Discrete Mathematics
RECENT PRESENTATIONS	<ul style="list-style-type: none"> • <i>Extending Alon-Tarsi Orientations</i>. AMS Special Session on Structural and Extremal Problems, 2014. • <i>Improving Brooks' theorem</i>. The 26th Clemson Conference on Discrete Mathematics and Algorithms, 2011. • <i>An improvement on Brooks' theorem</i>. CU-Denver Discrete Math Seminar, 2011.
COMPUTER SKILLS	<ul style="list-style-type: none"> • Languages: C#, C/C++, Dart, JavaScript, Python, Java, Pascal, Scheme, x86 assembly. • Applications: GAP, Boost Graph Library, L^AT_EX. • Operating Systems: UNIX/Linux, Windows.