

Landon Rabern's research

- [1] Daniel W. Cranston, Hudson Lafayette, and Landon Rabern. "Coloring (P_5, gem) -free graphs with $\Delta - 1$ colors". In: (2022). URL: <https://arxiv.org/pdf/2006.02015.pdf>.
- [2] H.A. Kierstead and Landon Rabern. "Improved lower bounds on the number of edges in list critical and online list critical graphs". In: *Journal of Combinatorial Theory, Series B* 140 (2020), pp. 147–170. URL: <https://doi.org/10.1016/j.jctb.2019.05.004>.
- [3] Daniel W. Cranston and Landon Rabern. "The Hilton-Zhao Conjecture is True for Graphs with Maximum Degree 4". In: *SIAM Journal on Discrete Mathematics* 33.3 (2019), pp. 1228–1241. URL: <https://doi.org/10.1137/18M117056X>.
- [4] Daniel W. Cranston and Landon Rabern. "Edge lower bounds for list critical graphs, via discharging". In: *Combinatorica* 38.5 (2018), pp. 1045–1065. URL: <https://doi.org/10.1007/s00493-016-3584-6>.
- [5] Daniel W. Cranston and Landon Rabern. "Planar graphs are $9/2$ -colorable". In: *Journal of Combinatorial Theory, Series B* 133 (2018), pp. 32–45. URL: <https://doi.org/10.1016/j.jctb.2018.04.002>.
- [6] Landon Rabern. "A better lower bound on average degree of k -list-critical graphs". In: *The Electronic Journal of Combinatorics* 25.1 (2018), P1.51. URL: <https://doi.org/10.37236/6405>.
- [7] Daniel W. Cranston and Landon Rabern. "Beyond Degree Choosability". In: *The Electronic Journal of Combinatorics* 24.3 (2017), P3.29. URL: <https://doi.org/10.37236/6179>.
- [8] Daniel W. Cranston and Landon Rabern. "List-Coloring Claw-Free Graphs with $\Delta-1$ Colors". In: *SIAM Journal on Discrete Mathematics* 31.2 (2017), pp. 726–748. URL: <https://doi.org/10.1137/15M1051774>.
- [9] Daniel W. Cranston and Landon Rabern. "Short fans and the $5/6$ bound for line graphs". In: *SIAM Journal on Discrete Mathematics* 31.3 (2017), pp. 2039–2063. URL: <https://doi.org/10.1137/16M1099030>.
- [10] Daniel W. Cranston and Landon Rabern. "Subcubic edge-chromatic critical graphs have many edges". In: *Journal of Graph Theory* 86.1 (2017), pp. 122–136. URL: <https://doi.org/10.1002/jgt.22116>.
- [11] Daniel W. Cranston and Landon Rabern. "The fractional chromatic number of the plane". In: *Combinatorica* 37.5 (2017), pp. 837–861. URL: <https://doi.org/10.1007/s00493-016-3380-3>.
- [12] H.A. Kierstead and Landon Rabern. "Extracting list colorings from large independent sets". In: *Journal of Graph Theory* 86.3 (2017), pp. 315–328. URL: <https://doi.org/10.1002/jgt.22128>.
- [13] Daniel W. Cranston and Landon Rabern. "Painting Squares in $\Delta^2 - 1$ Shades". In: *The Electronic Journal of Combinatorics* 23.2 (2016), P2.50. URL: <https://doi.org/10.37236/4978>.

- [14] Daniel W. Cranston and Landon Rabern. “Planar Graphs have Independence Ratio at least $3/13$ ”. In: *The Electronic Journal of Combinatorics* 23.3 (2016), P3.45. URL: <https://doi.org/10.37236/5309>.
- [15] Landon Rabern. “A Better Lower Bound on Average Degree of 4-List-Critical Graphs”. In: *The Electronic Journal of Combinatorics* 23.3 (2016), P3.37. URL: <https://doi.org/10.37236/5971>.
- [16] Daniel W. Cranston and Landon Rabern. “A Note on Coloring Vertex-Transitive Graphs”. In: *The Electronic Journal of Combinatorics* 22.2 (2015), P2.1. URL: <https://doi.org/10.37236/4626>.
- [17] Daniel W. Cranston and Landon Rabern. “Brooks’ Theorem and beyond”. In: *Journal of Graph Theory* 80.3 (2015), pp. 199–225. URL: <https://doi.org/10.1002/jgt.21847>.
- [18] Daniel W. Cranston and Landon Rabern. “Coloring a graph with $\Delta-1$ colors: Conjectures equivalent to the Borodin–Kostochka conjecture that appear weaker”. In: *European Journal of Combinatorics* 44 (2015), pp. 23–42. URL: <https://doi.org/10.1016/j.ejc.2014.09.006>.
- [19] Daniel W. Cranston and Landon Rabern. “Graphs with $\chi=\Delta$ Have Big Cliques”. In: *SIAM Journal on Discrete Mathematics* 29.4 (2015), pp. 1792–1814. URL: <https://doi.org/10.1137/130929515>.
- [20] Landon Rabern. “Edge-coloring via fixable subgraphs”. In: *arXiv:1507.05600* (2015). URL: <https://arxiv.org/abs/1507.05600>.
- [21] Landon Rabern. “A different short proof of Brooks’ theorem”. In: *Discussiones Mathematicae Graph Theory* 34.3 (2014), pp. 633–634. URL: <https://doi.org/10.7151/dmgt.1721>.
- [22] Landon Rabern. “A game generalizing Hall’s Theorem”. In: *Discrete Mathematics* 320 (2014), pp. 87–91. URL: <https://doi.org/10.1016/j.disc.2013.12.010>.
- [23] Landon Rabern. “Coloring graphs with dense neighborhoods”. In: *Journal of Graph Theory* 76.4 (2014), pp. 323–340. URL: <https://doi.org/10.1002/jgt.21768>.
- [24] Landon Rabern. “The list-chromatic index of K_8 and K_{10} ”. In: *unpublished* (2014). URL: <https://landon.github.io/graphdata/Papers/K8.pdf>.
- [25] Landon Rabern. “Yet another proof of Brooks’ theorem”. In: *arXiv:1409.6812* (2014). URL: <https://arxiv.org/abs/1409.6812>.
- [26] Daniel W. Cranston and Landon Rabern. “Coloring claw-free graphs with $\Delta-1$ colors”. In: *SIAM Journal on Discrete Mathematics* 27.1 (2013), pp. 534–549. URL: <https://doi.org/10.1137/12088015X>.
- [27] Landon Rabern. “Coloring Graphs from Almost Maximum Degree Sized Palettes”. Supervisor: Hal Kierstead. PhD thesis. Arizona State University, 2013. URL: https://repository.asu.edu/attachments/110259/content/Rabern_asu_0010E_12641.pdf.

- [28] Landon Rabern. “Destroying noncomplete regular components in graph partitions”. In: *Journal of Graph Theory* 72.2 (2013), pp. 123–127. URL: <https://doi.org/10.1002/jgt.21634>.
- [29] Landon Rabern. “Partitioning and coloring graphs with degree constraints”. In: *Discrete Mathematics* 313.9 (2013), pp. 1028–1034. URL: <https://doi.org/10.1016/j.disc.2013.01.007>.
- [30] Landon Rabern, Brian Rabern, and Matthew Macauley. “Dangerous reference graphs and semantic paradoxes”. In: *Journal of Philosophical Logic* 42.5 (2013), pp. 727–765. URL: <https://doi.org/10.1007/s10992-012-9246-2>.
- [31] Alexandr V. Kostochka, Landon Rabern, and Michael Stiebitz. “Graphs with chromatic number close to maximum degree”. In: *Discrete Mathematics* 312.6 (2012), pp. 1273–1281. URL: <https://doi.org/10.1016/j.disc.2011.12.014>.
- [32] Landon Rabern. “ Δ -Critical graphs with small high vertex cliques”. In: *Journal of Combinatorial Theory, Series B* 102.1 (2012), pp. 126–130. URL: <https://doi.org/10.1016/j.jctb.2011.05.003>.
- [33] Landon Rabern. “A note on vertex partitions”. In: *arXiv:1107.1735* (2011). URL: <https://arxiv.org/abs/1107.1735>.
- [34] Landon Rabern. “A strengthening of Brooks’ Theorem for line graphs”. In: *The Electronic Journal of Combinatorics* 18.1 (2011), P145. URL: <https://doi.org/10.37236/632>.
- [35] Landon Rabern. “An improvement on Brooks’ theorem”. In: *arXiv:1102.1021* (2011). URL: <https://arxiv.org/abs/1102.1021>.
- [36] Landon Rabern. “On hitting all maximum cliques with an independent set”. In: *Journal of Graph Theory* 66.1 (2011), pp. 32–37. URL: <https://doi.org/10.1002/jgt.20487>.
- [37] Dieter Gernet and Landon Rabern. “A computerized system for graph theory, illustrated by partial proofs for graph-coloring problems”. In: *Graph Theory Notes of New York LV* (2008), pp. 14–24. URL: <http://gt.nkzlow.info/GTN55.pdf>.
- [38] Matthew Macauley, Brian Rabern, and Landon Rabern. “A Novel Proof of the Heine-Borel Theorem”. In: *arXiv:0808.0844* (2008). URL: <https://arxiv.org/abs/0808.0844>.
- [39] Brian Rabern and Landon Rabern. “A simple solution to the hardest logic puzzle ever”. In: *Analysis* 68.2 (2008), pp. 105–112. URL: <https://doi.org/10.1093/analysis/68.2.105>.
- [40] Landon Rabern. “A note on Reed’s conjecture”. In: *SIAM Journal on Discrete Mathematics* 22.2 (2008), pp. 820–827. URL: <https://doi.org/10.1137/060659193>.

- [41] Dieter Gernert and Landon Rabern. “A knowledge-based system for graph theory, demonstrated by partial proofs for graph-colouring problems”. In: *MATCH Commun. Math. Comput. Chem* 58.2 (2007), pp. 445–460. URL: http://match.pmf.kg.ac.rs/electronic_versions/Match58/n2/match58n2_445-460.pdf.
- [42] Landon Rabern. “Applying Gröbner basis techniques to group theory”. In: *Journal of Pure and Applied Algebra* 210.1 (2007), pp. 137–140. URL: <https://doi.org/10.1016/j.jpaa.2006.09.001>.
- [43] Landon Rabern. “At Least Half Of All Graphs Satisfy $\chi \leq \frac{1}{4}\omega + \frac{3}{4}\Delta + 1$ ”. In: *arXiv:0708.2956* (2007). URL: <https://arxiv.org/abs/0708.2956>.
- [44] Landon Rabern. “Coloring and The Lonely Graph”. In: *arXiv:0707.1069* (2007). URL: <https://arxiv.org/abs/0707.1069>.
- [45] Landon Rabern. “The Borodin-Kostochka conjecture for graphs containing a doubly critical edge”. In: *The Electronic Journal of Combinatorics* 14 (2007), N22. URL: <https://doi.org/10.37236/1023>.
- [46] Landon Rabern. “New upper bounds on the chromatic number of a graph”. In: *arXiv:math/0606632* (2006). URL: <https://arxiv.org/abs/math/0606632>.
- [47] Landon Rabern. “On graph associations”. In: *SIAM Journal on Discrete Mathematics* 20.2 (2006), pp. 529–535. URL: <https://doi.org/10.1137/050626545>.
- [48] Landon Rabern. “Some bounds on convex combinations of ω and χ for decompositions into many parts”. In: *arXiv:math/0512291* (2005). URL: <https://arxiv.org/abs/math/0512291>.
- [49] Landon Rabern. “Properties of Magic Squares of Squares”. In: *Rose-Hulman Undergraduate Mathematics Journal* 4.1 (2003). URL: <https://scholar.rose-hulman.edu/rhumj/vol4/iss1/3/>.

Preprints of most of Rabern’s papers can be found on either github.com/landon or [arXiv.org](https://arxiv.org) “No more research behind paywalls please.”