

Curriculum Vitae

Rong Luo

Affiliation: Department of Mathematical Sciences, Middle Tennessee State University

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Education

Doctor of Philosophy in Mathematics, West Virginia University, 2002

Master of Science in Computer Science, West Virginia University, 2002

Master of Science in Mathematics, University of Science and Technology of China, 1998

Bachelor of Science in Mathematics, University of Science and Technology of China, 1996

Experience

Associate Professor of Mathematics, Middle Tennessee State University, August 2007-current

Assistant Professor of Mathematics, Middle Tennessee State University, August 2002-July 2007

Honors and Awards

- Middle Tennessee State University Distinguished Research Award 2006-2007.
- I was cited as a person at MTSU who makes a real difference in the lives of the students (2005).
- Outstanding Teaching Assistant, Eberly College of Arts and Sciences, West Virginia University (2000-2001).

Research interests: Graph Theory, Combinatorics, Combinatorial Matrix Theory, Mathematical Chemistry, Bioinformatics

Publications:

1. **Rong Luo** and Yue Zhao, An application of Vizing and Vizing-like adjacency lemmas to Vizing's Independence Number Conjecture of edge chromatic critical graphs, to appear in *Discrete Mathematics*.

2. Anhua Lin, **Rong Luo**, and Xiaoya Zha, On sharp bounds of the zero-order Randić index of certain unicyclic graphs , *Applied Mathematics Letters* **22** (2009) 585-589.
3. Yinmei Cao, Anhua Lin, **Rong Luo**, and Xiaoya Zha, On the minimal energy of unicyclic Hückel molecular graphs possessing Kekulé structures, *Discrete Applied Mathematics* **157** 913-919.
4. **Rong Luo**, Lianyin Miao, and Yue Zhao, The size of edge chromatic critical graphs with maximum degree six, *Journal of Graph Theory* **60** (2009) 149-171.
5. **Rong Luo**, Rui Xu, Jianhua Yin, and Gexin Yu, Z_3 -connected graphs satisfying Ore-condition, *European J. of Combinatorics* **29** (2008) 1587-1595.
6. Anhua Lin, **Rong Luo**, and Xiaoya Zha, A sharp lower bound of the Randić index of cacti with r pendants, *Discrete Applied Mathematics* **156** (2008) 1725-1735.
7. **Rong Luo** and Yue Zhao, Finding the exact bound of the maximum degrees of class two graphs embeddable in a surface of characteristic $\epsilon \in \{-1, -2, -3\}$, *Journal of Combinatorial Theory, Series B* **98** (2008) 707-720.
8. Anhua Lin, **Rong Luo**, Donard A. Nelson, and Xiaoya Zha, The second largest Randić index of quasi-tree graphs, Monographs on Mathematical Chemistry 6 “Recent Results in the Theory of Randić Index”, pp. 91-108, 2008.
9. **Rong Luo**, Rui Xu, Wenan Zang, and Cunquan Zhang, Realizing degree sequences with graphs having nowhere-zero 3-flows, *SIAM J. on Discrete Mathematics* **22** (2008) 500-519.
10. Guoqiang Song, Anhua Lin, **Rong Luo**, and Xiaoya Zha, Randić index of unicycle graphs with a k -cycle, *MATCH. Communication in Mathematics and Computational Chemistry* 58 (2007) 113-125.
11. Xuechao Li, **Rong Luo**, and Jianbing Niu, A note on class one graphs with maximum degree six, *Discrete Math.* **306** (2006) 1450-1455 .
12. **Rong Luo** and Yue Zhao, A note on Vizing’s conjecture on the independence number of an edge chromatic critical graphs, *Discrete Math.* **306** (2006) 1788-1790.

13. Xiaodong Zhang and **Rong Luo**, Non-bipartite graphs with third largest eigenvalue less than three, *Acta Mathematica Sinica* **22** (2006) 917-934.
14. K Kawarabayashi, **Rong Luo**, Jianbing Niu, and Cun-Quan Zhang, K_p -minors in p -connected graphs, *European Journal of Combinatorics* **26** (2005) 293–308.
15. **Rong Luo** and Cun-Quan Zhang, Edge-face chromatic number and edge-chromatic number, *Journal of Graph Theory* **49** (2005) 234-256.
16. **Rong Luo**, Morgan Warner, On potentially K_k -graphic sequences, *Ars Combinatoria* **75** (2005) 233-239.
17. **Rong Luo**, Wenan Zang, Cun-Quan Zhang, Nowhere-zero 4-flows, simultaneous edge-colorings, and critical partial Latin squares, *Combinatorica* **24** (2004) 641-657.
18. **Rong Luo** and Cun-Quan Zhang, Edge-coloring of simple graphs with small average degrees, *Discrete Math.* **275** (2004) 207-218.
19. Xuechao Li and **Rong Luo**, Edge coloring of embedded graphs with large girth, *Graphs and Combinatorics* **19** (2003) 393-401.
20. Xiaodong Zhang and **Rong Luo**, The Laplacian eigenvalues of mixed graphs, *Linear Algebra and Its Applications* **362** (2003) 109-119.
21. Xiaodong Zhang and **Rong Luo**, Upper bound for the non-maximal eigenvalues of irreducible nonnegative matrices, *Czechoslovak Math. J.* **52** (127) (2002) 537-544.
22. **Rong Luo**, Potentially C_k -graphic sequences, *Ars Combinatoria* **64** (2002) 301-318.
23. Xiaodong Zhang and **Rong Luo**, The spectral radius of triangle-free graphs, *Australas. J. Combin.* **26** (2002) 33-39.
24. Jiongsheng Li and **Rong Luo**, Potentially ${}_3C_l$ -graphic sequences, *J. Univ. Sci. Technol. China* **29** (1999) 1-8.
25. Jiongsheng Li, Zixia Song, and **Rong Luo**, The Erdős-Jacobson-Lehel conjecture on potentially P_k -graphic sequences is true, *Sci. China Ser. A* **41** (1998) 510-520.

26. Jiongsheng Li, **Rong Luo**, and Yunkai Liu, An extremal problem on potentially ${}_3C_l$ -graphic sequences, *J. Math. Study* **31** (1998) 362-369.

Submitted

27. **Rong Luo** and Yue Zhao, Finding the exact bound of the maximum degrees of class two graphs embeddable in a surface of characteristic -5 , submitted to *Journal of Graph Theory* (revision submitted in October 20,2008).
28. **Rong Luo** and Yue Zhao, A new upper bound for the independence number of edge chromatic critical graphs, submitted to *Journal of Graph Theory* in December 2008.
29. **Rong Luo**, D. Christopher Stephens, and Gexin Yu, Equitable coloring of sparse planar graphs, submitted to *SIAM J Discrete Math* in March 2009.

Professional Activities:

1. Refereed papers for the following journals:

The proceeding of The Ninth Quadrennial International Conference on Graph Theory, Combinatorics, Algorithms and Applications (a special issue of *Discrete Mathematics*)

Ars Combinatoria

Journal of Australa Combinatorics

Acta Mathematica Sinica

Applied Math Letter

Graphs and Combinatorics

Journal of Graph Theory

Applied Mathematics Letters

Discrete Mathematics

Science in China, Series A

SIAM Journal on Discrete Mathematics

Utilitas Mathematica

Discussiones Mathematicae Graph Theory

Advances and Applications in Discrete Mathematics

International Journal of Computer Mathematics.

2. Reviewer for *Mathematical Reviews*
3. Member of conference organizing committee

the 17th Cumberland Conference on Combinatorics, Graph Theory, and Computing

the 41st Midwest Graph Theory Conference

Special Session on Graph Theory at AMS Southeastern Meeting, Nov. 4-5, 2007

Grants:

1. Academic Year Research Grant, Fall 2003, Middle Tennessee State University
2. Summer Research Grant, Summer 2004, Middle Tennessee State University
3. Special Library Fund, Middle Tennessee State University, Fall 2002
4. Academic Year Research Grant, Fall 2004, Middle Tennessee State University
5. Special Library Fund, Middle Tennessee State University, Fall 2004
6. Summer Research Grant, Summer 2005, Middle Tennessee State University
7. NSF Grant: "Mighty Midwest Graph Theory Conference", Award number:

DMS-0504376.

Presentations:

1. *Edge-face chromatic number and edge-chromatic number*, The Ninth Quadrennial International Conference on Graph Theory, Combinatorics, Algorithms and Applications, June 14-20, 2000, Western Michigan University.
2. *On the edge-face coloring of plane graphs*, the 33rd Midwest Graph Theory Conference, Oct. 13-14, 2000, Wright State University.
3. *Edge-coloring and edge-face coloring of simple plane graphs*, Conference on Horizons in Combinatorics, May 21-24, 2001, Vanderbilt University.
4. *The Laplacian eigenvalues of mixed graphs*, AMS Southeastern Section Meeting Chattanooga, TN, October 5-6, 2001, University of Tennessee, Chattanooga.
5. *Nowhere-zero 4-flows, simultaneous edge-coloring*, Combinatorics Seminar, Nov. 4, 2001, University of Illinois at Urbana-Champaign.
6. *Flows and colorings*, Dec 19, 2001, University of Science and Technology of China (invited colloquium).
7. *Edge-face coloring of simple plane graphs*, Dec. 24, 2001, Shanghai Jiaotong University (invited colloquium).
8. *The Laplacian eigenvalues of mixed graphs*, AMS Southeastern Section Meeting in Orlando, FL, November 9-10, 2002.
9. *Edge coloring of simple graphs with small maximum degrees*, the 37th Midwestern Graph Theory Conference, Sept 19-20, 2003, Valparaiso University.
10. *On the degree sequences of simple graphs*, Integers conference 2003, Oct. 31-Nov 2, 2003, State University of West Georgia, GA.

11. *Coloring edges of graphs embedded in a surface of Euler characteristic 3*, CombinaTexas 04, April 9-10, 2004, Texas A&M University.
12. *The size of edge chromatic critical graphs with maximum degree six*, AMS Southeastern Section Meeting in Nashville, TN, October 15-16, 2004.
13. *The size of edge chromatic critical graphs with maximum degree six*, the 39th Midwest Graph Theory Conference, Nov 19-20, 2004.
14. *Vizing's four conjectures on edge colorings of simple graphs*, The university of Science and Technology of China, May 10, 2005 (invited colloquium).
15. *Vizing's four conjectures on edge colorings of simple graphs*, Nanjin Normal University, P.R. China, May 12, 2005 (invited colloquium).
16. *A proof of Keedwell conjecture on partial Latin squares*, Fifth Shanghai International Conference on Combinatorics, May 14-18, 2005, Shanghai.
17. *Vizing's four conjectures on edge colorings of simple graphs*, Anhui University, P. R. China May 20, 2005 (invited colloquium).
18. *Non-bipartite graphs with third largest Laplacian eigenvalue less than three*, 19th Cumberland Conference on Graph Theory and Combinatorics, May 18 -20, 2006.
19. *Realizing degree sequences with graphs having 3-flows*, Biomathematics Seminar at CAS-MPG Partner Institute for Computational Biology, June 15, 2006.
20. *Some edge coloring problems*, Shanghai Jiaotong University, June 16, 2006 (invited colloquium).
21. *Group connectivity and integer flows (I, II, III)*, Nanjin Normal University, June 26, 27, 28, 2006.
22. *Recent progress on Vizing's conjectures on critical graphs*, Xuzhou Normal University, July 2, 2006 (invited colloquium).
23. *Partial Latin squares and nowhere-zero flows*, The University of Mining technology of China, July 3, 2006 (invited colloquium).
24. *Realizing degree sequences with graphs having 3-flows*, The University of Science and Technology of China, July 5, 2006 (invited colloquium).
25. *Laplacian eigenvalues of nonbipartite graphs*, the 7th international conference on matrix theory and its applications, July 18, 2006.

Undergraduate Research Experience

(a) I initiated an undergraduate research program at West Virginia University when I was a Ph.D student, and supervised the first student, Mr. Morgan Warner. Under my supervision, he published one research paper: “ On potentially K_k -graphic sequences”,

Ars Combinatoria **75** (2005) 233–239. He also gave three presentations:

1. *On potentially K_k -graphic sequences*, Combinatorics Seminar, Department of Mathematics, WVU, Feb. 13, 2002.

2. *On potentially K_k -graphic sequences*, Fourth Annual Michigan Undergraduate Mathematics Conference, Feb. 16, 2002.

3. *Analysis of Degree Sequences*, Hudson River Undergraduate Mathematics Conference, April 28, 2002.

(b) I supervised one undergraduate student, Miss Tina Nemarnik on the project “Degree Sequence”, supported by MTSU undergraduate research award.

(c) I served as a judge for the Undergraduate Research Symposium on April 29, 2005.

(d) I (as a co-PI) submitted NSF Research Experience for Undergraduate (REU) proposal in 2003 and 2004 (not funded).

Committees:

1. Professional Math Committee (Department Committee) 2002-2006
2. Calculus Committee (Department Committee) 2002-2006
3. Student Affairs Committee (Department Committee) 2002-2006
4. Discrete Math Search Committee (Department Committee) 2003-2004
5. Traffic Committee (University Committee) 2003-2005
6. Academic Appeal Committee (University Committee) 2004-2006
7. Department Colloquium Coordinator 2004-2005
8. College of Basic and Applied Science Tenure and Promotion Ad Hoc Committee (College Committee) 2004-2006
9. Math Department Tenure and Promotion Ad Hoc Committee (Department Committee) 2004-2005
10. Faculty Research and Creative Activity Committee (University Committee), 2007-2009
11. Algebra Search Committee (Department Committee), 2007-2008
12. Department Tenure and Promotion Committee (Department Committee), 2007-2008
13. University Technology Committee (University Committee), 2006-2008
14. Computational Science PH.D Proposal Committee (University Committee), 2005-2008

References

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