

Ramin Javadi

Born: 6 September 1983, Isfahan, Iran.

Education

Sharif University of Technology **Ph.D.** in Mathematics Sep. 2007 – Sep. 2011

- Title of Thesis: Isoperimetric problems on graphs.
Under Supervision of Prof. Amir Daneshgar

Isfahan University of Technology **M.Sc.** in Mathematics Sep. 2005- July 2007

- Title of Thesis: Chip-firing game and b -coloring of graphs.
Under Supervision of Prof. Behnaz Omoomi

Isfahan University of Technology **B.Sc.** in Mathematics Sep. 2002- July 2005

Research interests

Graph Theory, Extremal Combinatorics, Geometric Analysis of Graphs,
Computational Complexity, Algorithms

Honors and awards

Graduated with 1st rank among the mathematics Ph.D. students in Sharif university of technology. (Spring 2011)

Graduated with 1st rank among the mathematics graduate students in Isfahan university of technology. (Spring 2007)

Distinguished graduate thesis, Isfahan University of Technology among all theses completed from 2004 until 2007. (Spring 2007)

Graduated with 1st rank among the pure mathematics undergraduate students (Summer 2005)

Awarded third prize in the 12th international mathematics competition, Blagovgrad, Bulgaria. (Summer 2005)

Awarded second prize in the 29th mathematics competition held by Iranian Mathematical Society. (Spring 2005)

Awarded second prize in the essay-writing competition held by Iranian Mathematical Society. (April 2003)

Appointments

Since Aug. 2011 Isfahan University of Technology, Assistant Professor in Mathematics

- [20] R. Javadi, A. Nikabadi, *On the Parameterized Complexity of Sparsest Cut and Small-set Expansion Problems*, 18 pages, <https://arxiv.org/abs/1910.12353>.
- [19] R. Javadi, F. Fallah, E. Poorhadi, *On packing for triples*, 18 pages, Submitted. <https://arxiv.org/abs/1905.10807>.
- [18] R. Javadi, S. Ashkboos, *Multi-way sparsest cut problem on trees with a control on the number of parts and outliers*, 14 pages, Submitted.
- [17] R. Javadi, S. Ashkboos, *An efficient parallel data clustering algorithm using isoperimetric number of trees*, 12 pages, Manuscript.
- [16] R. Javadi, F. Khoeini, G. Omid, A. Pokrovskiy, *On the size-Ramsey number of cycles*, *Combin. Probab. and Comput.* (2019), 1–10.
- [15] R. Javadi, F. Khoeini, *Size Ramsey Number of Bipartite Graphs and Bipartite Ramanujan Graphs*, *Transactions on Combinatorics*, **8** (2019) 45-51.
- [14] R. Javadi, S. Hajebi, *Edge Clique cover of claw-free graphs*, *J. Graph Theory* **90** (2019) 311-405.
- [13] R. Javadi, G. Omid, *On a question of Erdős and Faudree on the size-ramsey numbers*, *SIAM J. Discrete Math.* **32** (2018) 2217-2228.
- [12] X. Niu, H. Cao, R. Javadi, *The spectrum for large sets of $(3,\lambda)$ -GDDs of type g^u* , *J. Combinatorial Designs* **26** (2018) 616-639.
- [11] R. Javadi, F. Khodadadpoor, G. Omid, *Decomposition of complete uniform multi-hypergraphs into Berge paths and cycles*, *J. Graph Theory* **88** (2017) 507-520.
- [10] A. Davoodi, R. Javadi, B. Omoomi, *Clique covering sum of graphs*, *Acta. Math. Hungar.* **149** (2016), 82-91.
- [9] A. Davoodi, R. Javadi, B. Omoomi, *Pairwise Balanced Designs and Sigma Clique Partitions*, *Discrete Math.* **339** (2016) 1450-1458.
- [8] R. Javadi, Z. Maleki, B. Omoomi, *Local clique covering of claw-free graphs*, *J. Graph Theory* **81** (2016) 92-104.
- [7] A. Daneshgar, R. Javadi, B. Shariat Razavi, *Clustering using isoperimetric number of trees*, *Pattern Recognition* **46** (2013) 3371-3382.
- [6] R. Javadi and B. Omoomi, *b-coloring of Cartesian product of graphs*, *Ars Combinatoria* **107** (2012) 521-536.
- [5] A. Daneshgar and R. Javadi, *On the complexity of isoperimetric problems on trees*, *Discrete Appl. Math.* **160** (2012) 116-131.
- [4] A. Daneshgar, R. Javadi and L. Miclo, *On nodal domains and higher-order Cheeger inequalities of finite reversible Markov processes*, *Stochastic Processes and their Applications* **122** (2012) 1748–1776.

[3] A. Daneshgar, H. Hajiabollhassan and R. Javadi, *On the isoperimetric spectrum of graphs*, J. Com. Theory B. **100** (2010) 390–412.

[2] R. Javadi and B. Omoomi, *On the b -coloring of Kneser graphs*, Discrete Math. **309** (2009) 4399-4408.

[1] R. Javadi and B. Omoomi, *Strategy of conflicts in game theory*, Farhang va Andishe Riyazi **40** (2008) 47-62. (in Farsi)

Papers in Conferences

[9] R. Javadi and S. Hajebi, *Structure of claw-free graphs and its clique covering*, IPM Combinatorics and Computing Conference, Tehran, May 16-18, 2017. (invited speaker)

[8] A. Davoodi, R. Javadi and B. Omoomi, *Bounds on Some Variants of Clique Cover Numbers*. 46th Annual Iranian Mathematical Conference, Yazd University, August 25-28, 2015.

[7] A. Davoodi and R. Javadi, *Nordhaus-Gaddum Inequalities for sigma clique partition number of graphs*. 45th Annual Iranian Mathematical Conference, Semnan University, August 26-29, 2014.

[6] R. Javadi, *Local Boolean rank of matrices and a new Bollobas-type inequality in set systems*. 44th Annual Iranian Mathematical Conference, Ferdowsi University of Mashhad, August 27-30, 2013.

[5] R. Javadi, Z. Maleki, B. Omoomi, *A variant of edge clique covering*, International Conference on Discrete Mathematics and Computer Science, Beirut, Lebanon, November 13-17, 2012.

[4] A. Daneshgar and R. Javadi. *Isoperimetry problems on trees*. International Workshop of Graph Coloring and its Application, Tiruchirappalli, India, August 7-9, 2010. (invited speaker)

[3] B. Omoomi and R. Javadi. *b -Coloring of Kneser graphs*. 39th Annual Iranian Mathematical Conference, Shahid Bahonar University of Kerman, August 24-27, 2008.

[2] R. Javadi and B. Omoomi. *On the dominating coloring of graphs*. 38th Annual Iranian Mathematical Conference, University of Zanjan, September 3-6, 2007.

[1] B. Omoomi and R. Javadi. *On the b -coloring of some special graphs*, 21st British Combinatorial Conference. University of Reading, July 8-13, 2007.

Books

[2] R. Javadi, TeX Tutorial, *Amoozeshhaye Bonyadi*, 2012 (in Farsi).

[1] B. Omoomi and R. Javadi, *Combinatorial games*, *Jahad Daneshgahi*, 2010 (in Farsi).

Conferences and workshops participated

44th Annual Iranian Mathematical Conference, Ferdowsi University of Mashhad, Iran, 27-30 Aug. 2013.

International Conference on Discrete Mathematics and Computer Science, Beirut, Lebanon, 13-17 Nov. 2012.

International Conference on Recent Trends in Graph Theory and Combinatorics, Cochin, India, 12-15 Aug. 2010.

38th Annual Iranian Mathematical Conference, University of Zanjan, Iran, 3-6 Sep. 2007.

Workshop of “Algebraic graph theory”, IPM, Tehran, May 2007.

36th Annual Iranian Mathematical Conference, University of Yazd, Iran, Sep. 2005.

Courses Taught

Computational Complexity

Graph Theory

Advanced Graph Theory

Discrete Mathematics

Algebraic graph theory

Combinatorics

Extremal Combinatorics

Calculus

Mathematical Engineering

Approximation Algorithms