

Lale Özkahya

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POSITIONS	Dept. of Computer Engineering at Hacettepe University Associate Professor	2014–
	Dept. of Mathematics at Hacettepe University Expert	2012-2014
	Dept. of Mathematics at Işık University Postdoctoral researcher, Supervisor: Türker Bıyıkoğlu	Jan.-May 2012
	Dept. of Mathematics at Iowa State University Postdoctoral researcher, Supervisor: Maria Axenovich	Aug. 2011- May 2012
	Institute of Pure and Applied Mathematics (IPAM) <i>Combinatorics: Methods and App. in Math. and Comp. Sci.</i> Program Long-term sponsored fellow	Sep.-Dec. 2009
	Dept. of Mathematics at University of Illinois Graduate researcher	2004 - 2009
	Dept. of Aerospace engineering at University of Illinois Graduate researcher	2001 - 2003
EDUCATION	Ph.D. Mathematics , University of Illinois, Advisor: Zoltán Füredi	2010
	M.S. Aerospace engineering , (Computational Science and Engineering Program), University of Illinois, Advisor: Philippe Geubelle	2003
	B.S. Mechanical engineering , Boğaziçi (Bosphorus) University	1999
RESEARCH INTERESTS	Network analysis, graph mining, extremal graph theory	
AWARDS & HONORS	Science Academy Young Scientist Award (BAGEP, Mathematics)	2018
	Invited Participant at Geometric and Enumerative Combinatorics at IMA	2014
	Invited Participant at Hypergraph Turan problem Workshop at AIM	2011
JOURNALS	[1] L. Özkahya, A. Kırtıçoğlu: "Coloring of Graphs Avoiding Bicolored Paths of a Fixed Length", <i>Graphs and Combinatorics</i> 40 (1) (2024), Article 11. [2] L. Özkahya, Y. Person: "Minimum Rainbow H -decompositions of graphs", <i>European Journal of Combinatorics</i> 71 (2018), 111-124. [3] Z. Füredi, L. Özkahya: "On 3-uniform hypergraphs without a cycle of a given length", <i>Discrete Applied Mathematics</i> 216 (3) (2017), 582–588. [4] L. Özkahya, B. Stanton: "On a covering problem in the hypercube", <i>Graphs and Combinatorics</i> 31 (1) (2015), 235–242. [5] L. Özkahya, M. Young: "Anti-Ramsey number of matchings in hypergraphs", <i>Discrete Mathematics</i> 313 (20) (2013), 2359–2364 . [6] M. Axenovich, L. Özkahya: "On homometric sets in graphs", <i>Australas. J. Combin.</i> 55 (2013), 175–187. [7] Z. L. Nagy, L. Özkahya, B. Patkós, M. Vizer: "On the ratio of maximum and minimum degree in maximal intersecting families", <i>Discrete Mathematics</i> 313 (2013), 207–211.	

- [8] L. Özkahya, Y. Person: “Minimum H -decompositions of graphs: edge-critical case”, *Journal of Combinatorial Theory, Series B*, **102** (2012), 715–725.
- [9] Z. Füredi, L. Özkahya: “Unavoidable subhypergraphs: a -clusters”, *Journal of Combinatorial Theory, Series A* **118** (2011), 2246–2256.
- [10] Z. Füredi, L. Özkahya: “On even-cycle-free subgraphs of the hypercube”, *Journal of Combinatorial Theory, Series A* **118** (2011), 1816–1819.
- [11] J. Choi, L. Özkahya, D. West: “Degree-splittability of caterpillars and regular multigraphs”, *Congressus Numerantium* **202** (2010), 137–148.
- [12] A. Kostochka, L. Özkahya and D. Woodall: “A Brooks-type bound for squares of K_4 -minor-free graphs”, *Discrete Mathematics* **309** (2009), 6572–6584.
- [13] Z. Füredi, L. Özkahya: “On 14-cycle-free subgraphs of the hypercube”, *Combinatorics, Probability and Computing* **18** (2009), 725–729.

CONFERENCE
PUBLICATIONS

- [14] Ali Baran Taşdemir, Emir Kaan Kırmacı , Tuna Karacan, Lale Özkahya. Learning Heuristics for the Maximum Clique Enumeration Problem Using Low Dimensional Representations. The 11th International Conference on Computational Data and Social Networks (**CSoNet2022**), 9 pages, December 2022.
- [15] Murat Çelik, Ali Baran Taşdemir, Lale Özkahya. Low-Rank Representations Towards Classification Problem of Complex Networks. Signal Processing and Communications Applications Conference (**SIU2022**), 4 pages, May 2022.
- [16] Ali Baran Taşdemir, Lale Özkahya. Learning Heuristics for the Maximum Clique Enumeration Problem Using Higher-Order Graph Structures. Signal Processing and Communications Applications Conference (**SIU2021**), 4 pages, June 2021.
- [17] Ali Baran Taşdemir, Barkın Atasay, Lale Özkahya. Classification of Complex Networks Using Structural Analysis of Random Graph Models. Signal Processing and Communications Applications Conference (**SIU2020**), 4 pages, October 2020.
- [18] Taha Sevim, Muhammet Selçuk Güvel, Lale Özkahya. A Fast Counting Method for 6-Motifs with Low Connectivity Mathematical Aspects of Computer and Information Sciences (**MACIS 2019**), 8 pages, November 2019.

TEACHING
EXPERIENCE

Undergraduate Teaching

- **BBM205 Discrete Mathematics** 2015-
- **BBM 301 Programming Languages** 2021-
- **BBM462 Social and Economic Networks** 2022-2023
- **BBM402 Theory of Computation** 2018-2020, 2024
- **BBM 401 Automata Theory and Formal Languages** 2016, 2017
- **BBM403 Combinatorics and Graph Theory** 2015, 2019

Graduate Teaching

- **CMP741 Advanced Analysis of Algorithms** 2021-2022
- **CMP694 Graph Theory** 2015-2020, 2023

STUDENTS MENTORED	Ph.D. Students	
	• Derman Keskinılıç (2022-)	
	M.S. Students	
	• Ali Baran Taşdemir (2020-2022, PhD student at Hacettepe University)	
	• Alaittin Kırtışođlu (2019-2021, PhD student at Illinois Institute of Technology)	
PROJECTS	TUBITAK-1002 , Maksimum Klik Probleminin Çözümü için Yüksek Dereceli Çizge Motiflerinin Katkısıyla Nokta Sınıflandırılması. Principal Investigator	Feb-Nov 2021
	TUBITAK-1001 , 'TARIF : Kendin yap videolarının eşleştirilmesi ve zenginleştirilmesi için çok-kipli yaklaşım'. Researcher	2019-2022
	TUBITAK and European Science Foundation (EUROCORES Programme EUROGIGA) , 'Geometric representations and symmetries of graphs, maps and other discrete structures and applications in science' (GReGAS). Researcher	Jan-May 2012
INVITED TALKS	Analysis Seminar, Bilkent University	2022
	IMBM Discrete Math Days, Boğaziçi University	2019
	Institute of Mathematics at Goethe University	2018
	Dept. of Mathematics at Koç University	2017
	Gwangju Institute of Science and Technology	2015
	Workshop on Graph Theory and its Applications III at IMBM.	2012
	National Mathematics Symposium at Nigde University	2012
	Special Session on Graphs and Hypergraphs at AMS Fall Central Section Meeting	2010
	Conference in honor of Laci Babai's 60th birthday Combinatorics, Groups, Algorithms, and Complexity	2010
EXTERNAL SERVICE	Journal Reviewer	
	Australasian J. of Combin.	2016
	Cent. Eur. J. of Math.	2013
	Combin. Probab. Comput.	2014
	Discrete Applied Math.	2015
	Discrete Math.	2011-2018, 2022-2024
	Discuss. Math. Graph Theory	2011, 2016
	Electronic J. of Combin.	2019, 2022
	Graphs and Combin.	2011, 2014, 2024
	Hacettepe J. of Math. and Stat.	2013, 2014
	J. Graph Theory	2012, 2014, 2020
	J. of Combin. Optim.	2016

Turkish J. of Elec. Eng. Comp. Sci.	2014, 2019, 2021
Turkish J. of Math.	2012, 2013, 2015, 2018
IEEE Transactions on Industrial Informatics	2017
J. Combin. Theo. Ser. A.	2017

Leading Roles

Co-organizer of <i>Special Session on Graph Theory</i> at AMS Central Section Meeting. Iowa City.	2011
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