

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 Bıyıkoglu	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. Kırtısoğlu: " Coloring of Graphs Avoiding Bicolored Paths of a Fixed Length", accepted to <i>Graphs and Combinatorics</i> .	
	[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-
- **BBM402 Theory of Computation** 2018-2020
- **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 Keskinçilic (2022-)

M.S. Students

- Ali Baran Taşdemir (2020-2022, PhD student at Hacettepe University)
- Alaittin Kırtışoğlu (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, 'TARİF : 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

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

Discuss. Math. Graph Theory

2011, 2016

Electronic J. of Combin.

2019, 2022

Graphs and Combin.

2011, 2014

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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