

# Lale Özkahya

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POSITIONS	Dept. of Computer Engineering at Hacettepe University Associate Professor Dept. of Mathematics at Hacettepe University Expert Dept. of Mathematics at Işık University Postdoctoral researcher Dept. of Mathematics at Iowa State University Postdoctoral researcher Institute of Pure and Applied Mathematics (IPAM) <i>Combinatorics: Methods and App. in Math. and Comp. Sci. Program</i> Long-term sponsored fellow Dept. of Mathematics at University of Illinois Graduate researcher Dept. of Aerospace engineering at University of Illinois Graduate researcher	2014–  2012-2014 Jan.-May 2012 Aug. 2011- May 2012  Sep.-Dec. 2009 2004 - 2009 2001 - 2003
EDUCATION	<b>Ph.D. Mathematics</b> , University of Illinois, Advisor: Zoltán Füredi <b>M.S. Aerospace engineering</b> , (Computational Science and Engineering Program), University of Illinois, Advisor: Philippe Geubelle <b>B.S. Mechanical engineering</b> , Boğaziçi (Bosphorus) University	2010 2003 1999
RESEARCH INTERESTS	Social network analysis, extremal graph theory	
AWARDS& HONORS	Science Academy Young Scientist Award (BAGEP, Mathematics) Invited Participant at Geometric and Enumerative Combinatorics at IMA Invited Participant at Hypergraph Turan problem Workshop at AIM	2018 2014 2011
JOURNALS	[1] L. Özkahya, Y. Person: “Minimum Rainbow $H$ -decompositions of graphs”, <i>European Journal of Combinatorics</i> <b>71</b> (2018), 111-124. [2] Z. Füredi, L. Özkahya: “On 3-uniform hypergraphs without a cycle of a given length”, <i>Discrete Applied Mathematics</i> <b>216</b> (3) (2017), 582–588. [3] L. Özkahya, B. Stanton: “On a covering problem in the hypercube”, <i>Graphs and Combinatorics</i> <b>31</b> (1) (2015), 235–242. [4] L. Özkahya, M. Young: “Anti-Ramsey number of matchings in hypergraphs”, <i>Discrete Mathematics</i> <b>313</b> (20) (2013), 2359–2364 . [5] M. Axenovich, L. Özkahya: “On homometric sets in graphs”, <i>Australas. J. Combin.</i> <b>55</b> (2013), 175–187. [6] 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> <b>313</b> (2013), 207–211. [7] L. Özkahya, Y. Person: “Minimum $H$ -decompositions of graphs: edge-critical case”, <i>Journal of Combinatorial Theory, Series B</i> , <b>102</b> (2012), 715–725.	

	<p>[8] Z. Füredi, L. Özkahya: “Unavoidable subhypergraphs: a-clusters”, <i>Journal of Combinatorial Theory, Series A</i> <b>118</b> (2011), 2246–2256.</p> <p>[9] Z. Füredi, L. Özkahya: “On even-cycle-free subgraphs of the hypercube”, <i>Journal of Combinatorial Theory, Series A</i> <b>118</b> (2011), 1816–1819.</p> <p>[10] J. Choi, L. Özkahya, D. West: “Degree-splittability of caterpillars and regular multigraphs”, <i>Congressus Numerantium</i> <b>202</b> (2010), 137–148.</p> <p>[11] A. Kostochka, L. Özkahya and D. Woodall: “A Brooks-type bound for squares of <math>K_4</math>-minor-free graphs”, <i>Discrete Mathematics</i> <b>309</b> (2009), 6572–6584.</p> <p>[12] Z. Füredi, L. Özkahya: “On 14-cycle-free subgraphs of the hypercube”, <i>Combinatorics, Probability and Computing</i> <b>18</b> (2009), 725–729.</p>
CONFERENCE PUBLICATIONS	<p>[13] Ali Baran Taşdemir, Lale Özkahya. Learning Heuristics for the Maximum Clique Enumeration Problem Using Higher-Order Graph Structures. Signal Processing and Communications Applications Conference (<b>SIU2021</b>), 4 pages, June 2021.</p> <p>[14] Ali Baran Taşdemir, Barkın Atasay, Lale Özkahya. Classification of Complex Networks Using Structural Analysis of Random Graph Models. Signal Processing and Communications Applications Conference (<b>SIU2020</b>), 4 pages, October 2020.</p> <p>[15] Taha Sevim, Muhammet Selçuk Güvel, Lale Özkahya. A Fast Counting Method for 6-Motifs with Low Connectivity Mathematical Aspects of Computer and Information Sciences (<b>MACIS 2019</b>), 8 pages, November 2019.</p>
TEACHING EXPERIENCE	<p><b>Undergraduate Teaching</b></p> <ul style="list-style-type: none"> <li>• <b>BBM205 Discrete Mathematics</b> 2015-2021</li> <li>• <b>BBM 301 Programming Languages</b> 2021</li> <li>• <b>BBM462 Social and Economic Networks</b> 2022</li> <li>• <b>BBM402 Theory of Computation</b> 2018-2020</li> <li>• <b>BBM 401 Automata Theory and Formal Languages</b> 2016, 2017</li> <li>• <b>BBM403 Combinatorics and Graph Theory</b> 2015, 2019</li> </ul> <p><b>Graduate Teaching</b></p> <ul style="list-style-type: none"> <li>• <b>CMP741 Advanced Analysis of Algorithms</b> 2021</li> <li>• <b>CMP694 Graph Theory</b> 2015-2020</li> </ul>
STUDENTS MENTORED	<p><b>M.S. Students</b></p> <ul style="list-style-type: none"> <li>• Ali Baran Taşdemir (2020-2022)</li> <li>• Alaittin Kırtışoğlu (currently at Illinois Institute of Technology)</li> </ul>
PROJECTS	<p><b>TUBITAK-1002</b>, Maksimum Klik Probleminin Çözümü için Yüksek Dereceli Çizge Motiflerinin Katkısıyla Nokta Sınıflandırılması. Principal Investigator Feb-Nov 2021</p> <p><b>TUBITAK-1001</b>, 'TARİF : Kendin yap videolarının eşleştirilmesi ve zenginleştirilmesi için çok-kipli yaklaşım'. Researcher 2019-2022</p>

**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	<b>Journal Reviewer</b>	
	Australasian J. of Combin.	2016
	Cent. Eur. J. of Math.	2013
	Combin. Probab. Comput.	2014
	Discrete Applied Math.	2015
	Discrete Math.	2011-2018
	Discuss. Math. Graph Theory	2011, 2016
	Electronic J. of Combin.	2019
	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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