

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, Supervisor: Türker Bıyıkoglu Dept. of Mathematics at Iowa State University Postdoctoral researcher, Supervisor: Maria Axenovich 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	Ph.D. Mathematics , University of Illinois, Advisor: Zoltán Füredi M.S. Aerospace engineering , (Computational Science and Engineering Program), University of Illinois, Advisor: Philippe Geubelle B.S. Mechanical engineering , 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, 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.	

	<p>[8] L. Özkahya, Y. Person: “Minimum H-decompositions of graphs: edge-critical case”, <i>Journal of Combinatorial Theory, Series B</i>, 102 (2012), 715–725.</p> <p>[9] Z. Füredi, L. Özkahya: “Unavoidable subhypergraphs: α-clusters”, <i>Journal of Combinatorial Theory, Series A</i> 118 (2011), 2246–2256.</p> <p>[10] Z. Füredi, L. Özkahya: “On even-cycle-free subgraphs of the hypercube”, <i>Journal of Combinatorial Theory, Series A</i> 118 (2011), 1816–1819.</p> <p>[11] J. Choi, L. Özkahya, D. West: “Degree-splittability of caterpillars and regular multigraphs”, <i>Congressus Numerantium</i> 202 (2010), 137–148.</p> <p>[12] A. Kostochka, L. Özkahya and D. Woodall: “A Brooks-type bound for squares of K_4-minor-free graphs”, <i>Discrete Mathematics</i> 309 (2009), 6572–6584.</p> <p>[13] Z. Füredi, L. Özkahya: “On 14-cycle-free subgraphs of the hypercube”, <i>Combinatorics, Probability and Computing</i> 18 (2009), 725–729.</p>
CONFERENCE PUBLICATIONS	<p>[14] 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.</p> <p>[15] 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.</p> <p>[16] 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.</p> <p>[17] 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.</p>
TEACHING EXPERIENCE	<p>Undergraduate Teaching</p> <ul style="list-style-type: none"> • 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 <p>Graduate Teaching</p> <ul style="list-style-type: none"> • CMP741 Advanced Analysis of Algorithms 2021- • CMP694 Graph Theory 2015-2020
STUDENTS MENTORED	<p>M.S. Students</p> <ul style="list-style-type: none"> • Ali Baran Taşdemir (2020-2022) • Alaittin Kırtışoğlu (currently at Illinois Institute of Technology)

PROJECTS

TUBITAK-1002, Maksimum Klık 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

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 *Special Session on Graph Theory* at AMS Central Section Meeting.
Iowa City.

2011