

Casey Tompkins

CONTACT INFORMATION	+36 70 606 7206 ctompkins496@gmail.com <i>Citizenship:</i> United States <i>Homepage:</i> caseytompkins.com
CURRENT POSITION	Young Researcher (postdoc) at the Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences. Sep 2014–present
RESEARCH INTERESTS	Extremal combinatorics, graph theory, combinatorial geometry.
EDUCATION	Central European University , Budapest, Hungary Ph.D., Mathematics and its Applications May 2015 <ul style="list-style-type: none">• Thesis Topic: <i>Extremal Problems on Sets and Posets</i>, awarded grade of <i>summa cum laude</i>• Advisor: Gyula O.H. Katona M.S., Mathematics and its Applications June 2011 <ul style="list-style-type: none">• Thesis Topic: <i>Generalizations of Classical Theorems in Extremal Set Theory</i>• Advisor: Gyula O.H. Katona Lake Forest College , Lake Forest IL, United States B.S., Mathematics Dec 2008
AWARDS	Doctoral Research Study Grant Aug 2014 Award for Advanced Doctoral Students Feb 2014 Typically awarded to one or two students per year based on academic and research achievement. Department of Mathematics and its Applications, Central European University
ARTICLES	<ol style="list-style-type: none">1. D. Grósz, A. Methuku, and C. Tompkins. An upper bound on the size of diamond-free families of sets. arXiv:1601.06332, to appear Journal of Combinatorial Theory, Series A.2. A. Davoodi, E. Győri, A. Methuku, C. Tompkins. An Erdős-Gallai type theorem for hypergraphs. European Journal of Combinatorics 69, 159-162, 2018.3. D. Gerbner, A. Methuku, C. Tompkins. Intersecting P-free families. Journal of Combinatorial Theory, Series A 151, 61-83, 2017.4. P. Aboulker, G. Lagarde, D. Malec, A. Methuku, C. Tompkins. De Bruijn-Erdős type theorems for graphs and posets. Discrete Mathematics 340 (5) 995-999, 2017.5. D. Grósz, A. Methuku, and C. Tompkins. An improvement of the general bound on the largest family of subsets avoiding a subposet. Order 34, 113-125, 2016.6. A. Methuku and C. Tompkins. Exact forbidden subposet results using chain decompositions of the cycle. The Electronic Journal of Combinatorics, 22(4), 2015.

7. E. Győri, S. Kessell, C. Tompkins. Making a C_6 -free graph C_4 -free and bipartite. *Discrete Applied Mathematics* 209, 133-136, 2015.
8. D. Grósz, A. Methuku, and C. Tompkins. Uniformity thresholds for the asymptotic size of extremal Berge-F-free hypergraphs. *Electronic Notes in Discrete Mathematics* 61, 527-533, 2017. (extended abstract)
9. D. Grósz, A. Methuku, C. Tompkins. On subgraphs of C_{2k} -free graphs and a problem of Kühn and Osthus. arXiv:1708.05454, submitted.
10. E. Győri, G. Katona, L. Papp, C. Tompkins. The optimal pebbling number of staircase graphs. arXiv:1611.09686, submitted.
11. E. Győri, D. Korándi, A. Methuku, I. Tomon, C. Tompkins, M. Vizer. On the Turán number of some ordered even cycles. arXiv:1710.07664, submitted.
12. E. Győri, A. Methuku, N. Salai, C. Tompkins, M. Vizer. On the maximum number of hyperedges in connected hypergraphs without long paths. arXiv:1710.08364, submitted.
13. G. Bacsó, Cs. Bujtás, C. Tompkins, Zs. Tuza. Disjoint total dominating sets in 3-regular graphs, submitted.
14. J. Cardinal, S. Felsner, T. Miltzow, C. Tompkins, B. Vogtenhuber. Intersection graphs of rays and grounded segments. arXiv:1612.03638, submitted. (also appeared in a peer reviewed conference.)
15. C. Tompkins and Y. Wang. On an extremal problem involving a pair of forbidden posets. arXiv:1710.10760, submitted.
16. M. Ferrara, D. Johnston, S. Loeb, F. Pfender, A. Schulte, H. Smith, E. Sullivan, M. Tait, C. Tompkins. On Edge-Colored Saturation Problems. arXiv:1712.00163, submitted.
17. N. Salia, C. Tompkins, O. Zamora. An Erdős-Gallai type theorem for vertex colored graphs, submitted.

PEER REVIEWED
CONFERENCE
PROCEEDINGS

1. J. Cardinal, S. Felsner, T. Miltzow, C. Tompkins, B. Vogtenhuber. Intersection graphs of rays and grounded segments. *Proceedings of the 43rd International Workshop on Graph-Theoretic Concepts in Computer Science*, 2017.

PRESENTATIONS

Talks at Conferences

- Rocky Mountain Graduate Research Workshop in Combinatorics July 2017
Exact bounds for forbidden subposet problems
- 26th British Combinatorial Conference, Glasgow, United Kingdom July 2017
An upper bound on the size of diamond-free families of sets
- Interactions with Combinatorics, Birmingham, United Kingdom June 2017
Ordered graphs avoiding certain even cycles
- 25th workshop 3in1, Doslónce, Poland Nov 2016
An upper bound on the size of diamond-free families of sets
- The Fourth Gdańsk Workshop on Graph Theory Jun 2016
An Erdős-Gallai type theorem for hypergraphs
- 24th workshop 3in1, Krynica, Poland Nov 2015
An improvement of the general bound on the largest family of subsets avoiding a subposet

	<ul style="list-style-type: none"> • Young Researcher Conference, Budapest, Hungary Extremal Results for forbidden subposets 	Jan 2015
	<ul style="list-style-type: none"> • Combinatorics 2014, Gaete, Italy Making a C_6-free graph C_4-free and bipartite 	Jun 2014
	<ul style="list-style-type: none"> • Summit:240, Budapest, Hungary Making a C_6-free graph C_4-free and bipartite 	Jul 2014
	<ul style="list-style-type: none"> • Problems in Combinatorics and Posets Session, Kraków, Poland Fobidding Subosets of B_n 	Sep 2012
	Talks at Tokyo University of Science	
	<ul style="list-style-type: none"> • The largest family of sets forbidding a subposet 	Oct 2014
	Invited talks at Central European University	
	<ul style="list-style-type: none"> • Extremal problems for posets 	Nov 2017
	Talks at the Rényi Institute	
	<ul style="list-style-type: none"> • Solution to a conjecture of Barrus et al. on saturated graphs 	Sep 2017
	<ul style="list-style-type: none"> • A hypergraph version of the Erdős-Gallai theorem 	Mar 2017
	<ul style="list-style-type: none"> • Diamond-free families of sets 	Oct 2016
	<ul style="list-style-type: none"> • Intersecting P-free problems 	Apr 2015
	<ul style="list-style-type: none"> • Local versions of Intersection and Sperner-type problems 	Dec 2014
	<ul style="list-style-type: none"> • A paper of Kamat and Misra: “An Erdős-Ko-Rado theorem for matchings in the complete graph” 	Apr 2013
	<ul style="list-style-type: none"> • Making a Graph C_6 or C_8-free 	Dec 2012
	<ul style="list-style-type: none"> • A generalization of Hilton’s Theorem 	Nov 2011
	<ul style="list-style-type: none"> • A paper of Körner and Sinaimeri: “On Cancellative Set Families” 	Apr 2010
	Presentations at annual Student Symposium Lake Forest College	
	<ul style="list-style-type: none"> • Counting the Fibonacci Numbers 	Apr 2008
	<ul style="list-style-type: none"> • Granular Compaction 	Apr 2007
TEACHING EXPERIENCE	Co-Instructor	Spring 2018
	Topics in Combinatorics at Central European University, Hungary (co-taught with Gábor Tardos)	
	Postdoc mentor for graduate students at GRWC	Summer 2017
	Involved discussion sessions about graduate school and opportunities after graduate school.	
	Instructor	Fall 2011–13 and 2015–17
	Mathematics subject GRE preparation seminar at Budapest Semesters in Mathematics (a full course involving weekly lectures and problem sheets)	
	Teaching Assistant	2006-08
	Real Analysis	
	Linear Algebra	
	Discrete Mathematics	
	(involved grading homework, proctoring exams, and giving some lectures)	
	Tutor in Mathematics and Physics Department	
	Lake Forest College	
ACADEMIC VISITS	Tokyo University of Sciences	Sep 2014– Nov 2014
	Supervisor: Yoshimi Egawa	
PROFESSIONAL SERVICE	Conference Assistance	
	<ul style="list-style-type: none"> • Assisted in running the Summit 2014 Conference 	2014
	<ul style="list-style-type: none"> • Assisted in running Erdős Centennial Conference 	2013

- Assisted in running the European Conference on Combinatorics, Graph Theory and Applications

2011

Reviewing Articles for

- Combinatorica
- European Journal of Combinatorics
- Discrete Mathematics
- Journal of Combinatorial Theory, Series A
- Australian Journal of Combinatorics

Reviewer for Mathematical Reviews/MathSciNet