

Nika Salia

CONTACT INFORMATION	+36 70 259 5264, +995 555 10 48 52 salia.nika@renyi.hu, nikasalia@yahoo.com <i>Address:</i> Nánási st. 1/B, app. 414, 1031, Budapest, Hu. <i>Address:</i> Guram Panjikidze 22, app. 40, 0160, Tbilisi, Geo.
RESEARCH INTERESTS	Extremal Combinatorics, Graph Theory, Ramsey Theory, Random Graphs, Probabilistic Combinatorics
RESEARCH POSITION	2018 – 2022 Alfréd Rényi Institute of Mathematics, Budapest, Hungary • Research Area: <i>Extremal Combinatorics, Extremal Set Theory, Graph Theory</i> • Advisor: Ervin Győri
EDUCATION	Central European University, Budapest, Hungary Department of Mathematics and its Applications Ph.D. 2015 – (2021) • Research Area: <i>Extremal Combinatorics, Graph Theory</i> • Advisor: Ervin Győri M.Sc. 2013 – 2015 • Thesis Title: <i>Graphs with Isomorphic DFS Spanning Trees</i> • Advisor: Ervin Győri Tbilisi State University, Tbilisi, Georgia B.Sc., Exact and Natural Sciences 2009 – 2013 • Thesis Title: <i>Numerical Comparison of Different Algorithms for Construction of Wavelet Matrices</i> • Advisor: Lasha Ephremidze
TEACHING POSITION	Budapest Semester in Mathematics Online Lecturer Winter, 2020 • Combinatorics of finite set systems Tutor 2018 – 2020 • Graph Theory • Combinatorics 1 • Combinatorics of Finite Sets • Extremal Combinatorics

Central European University

Teaching Assistant

- Topics in Combinatorics **Winter, 2019**
- Quantitative Methodology **Autumn, 2018**

Budapest Metropolitan University

Co/Lecturer

2017 – 2019

- Calculus for Business and Economics I
- Calculus for Business and Economics II,
Probability and Statistics

Milestone Institute, Budapest, Hungary

Module Leader

Summer, 2019

- Advanced Graph Theory

V. Komarovi Tbilisi School of Physics and Mathematics 199

Chair of Mathematics 'Circle'

2009 – 2013

- Training students for international mathematical Olympiad
- Teaching recreational mathematics

FELLOWSHIPS, AWARDS, GRANTS

- Doctoral Research Support Grant, CEUBPF, *Research at Institute of Pure and Applied Mathematics, Rio de Janeiro, Brazil*
Nov. 2019 – Feb. 2020
- Rustaveli National Science Foundation Grant, Project No. FR-18-2499 *New approaches in modern analysis on metric spaces, multidimensional and Applied Harmonic Analysis. Applications to PDEs* **2019 – 2021**
- Rustaveli National Science Foundation Grant, Project No. DI-18-118 *Integral Operators in Non-standard Function Spaces; New Aspects of Fourier Analysis and Wavelet Theory* **2019 – 2021**
- Fellowship for Doctoral students, *Central European University*
2013 – 2015
- First place at the seventy-second student scientific conference, *I. Javakhishvili Tbilisi State University Georgia* **2012**
- Bronze medal, *International Zhautykov Olympiad, Kazakhstan* **2009**
- Honorable mention, *International Mathematical Olympiad, (IMO), Spain* **2008**

PUBLICATIONS

1. D. Ghosh, E. Győri, A. Paulos, N. Salia, O. Zamora. The Maximum wiener index of maximal planar graphs. *Journal of Combinatorial Optimization*, DOI: 10.1007/s10878-020-00655-4, (2020)
2. E. Győri, N. Lemons, N. Salia, O. Zamora. The Structure of Hypergraphs without long Berge cycles. *Journal of Combinatorial Theory, Series B*, DOI: 10.1016/j.jctb.2020.04.007, (2020)
3. B. Ergemlidze, E. Győri, A. Methuku, N. Salia, C. Tompkins, O. Zamora. Avoiding long Berge cycles, the missing cases $k = r + 1$ and $k = r + 2$. *Combinatorics, Probability and Computing*, DOI: 10.1017/S0963548319000415, 1–13, (2019)
4. N. Salia, C. Tompkins, Z. Wang, O. Zamora. Ramsey numbers of Berge-hypergraphs and related structures. *Electronic Journal of Combinatorics*, Volume 26, Issue 4, P4.40, (2019)
5. E. Győri, N. Salia, C. Tompkins, O. Zamora. The maximum number of P_ℓ copies in P_k -free graphs. *Discrete Mathematics and Theoretical Computer Science* 21, 14, (2019)
6. N. Salia, C. Tompkins, O. Zamora. An Erdős-Gallai type theorem for vertex colored graphs. *Graphs and Combinatorics*, DOI: 10.1007/s00373-019-02026-1, (2019)
7. L. Ephremidze, N. Salia, I. Spitkovsky. On a parametrization of non-compact Wavelet matreces by Wiener-Hopf factorisation. *Transactions A. Razmadze Mathematical Institute* Vol. 173 issue 3, 1 (2019)
8. E. Győri, A. Methuku, N. Salia, C. Tompkins, M. Vizer. On the maximum size of connected hypergraphs without a path of given length. *Journal of Discrete Mathematics*, 341(9): 26022605, (2018)
9. B. Ergemlidze, E. Győri, A. Methuku, N. Salia. A note on the maximum number of triangles in a C_5 -free graph. *Journal of Graph Theory*, 14, (2018)
10. L. Ephremidze, N. Salia, I. Spitkovsky. Some Aspects of a Novel Matrix Spectral Factorization Algorithm. *Proceedings of A. Razmadze Mathematical Institute* 166: 49-60, (2014)

PREPRINTS

My arXiv identifier: https://arxiv.org/a/salia_n_1.html

SELECTED CONFERENCE TALKS

1. The Structure of Hypergraphs Without Long Berge Cycles. EUROCOMB 2019, European Conference on Combinatorics, Graph Theory and Applications
2. The Structure of Connected Hypergraphs without Long Berge Paths. BCC 2019, 27th British Combinatorial Conference

3. On the Maximum Size of Connected Hypergraphs without a Berge-Cycle of Given Length. ICGT 2018, 10th international colloquium on graph theory and combinatorics
4. Maximum Number of Triangles in a C_5 -Free Graph. EUROCOMB 2017, European Conference on Combinatorics, Graph Theory and Applications

CONFERENCE
PUBLICATIONS,
PROCEEDINGS

1. N. Salia, C. Tompkins, Z. Wang, O. Zamora. Ramsey numbers of Berge-hypergraphs and related structures. *Acta Mathematica Universitatis Comenianae*, Vol. LXXXVIII, 3, pp. 1035-1042, (2019)
2. E. Győri, N. Lemons, N. Salia, O. Zamora. The structure of hypergraphs without long Berge cycles. *Acta Mathematica Universitatis Comenianae*, Vol. LXXXVIII, 3, pp. 767-771, (2019)
3. E. Győri, N. Salia, C. Tompkins, O. Zamora. The maximum number of P_l copies in P_k -free graphs. *Acta Mathematica Universitatis Comenianae*, Vol. LXXXVIII, 3, pp. 773-778, (2019)
4. B. Ergemlidze, E. Győri, A. Methuku, N. Salia. A note on the maximum number of triangles in a C_5 -free graph. *Electronic Notes in Discrete Mathematics*, 61, pp. 395-398. ISSN 1571-0653 June, (2018)
5. L. Ephremidze, A. Gamkrelidze, N. Salia. Numerical Comparison of Different Algorithms for Construction of Wavelet Matrices, *IEEE First International Black Sea Conference on Communications and Networking, Proceedings*, pp. 177 - 180, (2013)

INVITED TALKS

1. Ramsey numbers of Berge-Hypergraphs and Related Structures. Which Hypergraphs are Extremal?
Combinatorics Seminar, IMPA - Institute of Pure and Applied Mathematics
Dec. 2019 & Jan. 2020
2. Erdős-Gallai Type Theorems for Uniform Hypergraphs The Institute of Mathematics and Statistics, the University of Sao Paulo, **Jan. 2020**
3. Which Hypergraphs are Extremal? Young Researchers' Symposium, Alfréd Rényi Institute of Mathematics **Nov. 2019**
4. Erdős-Gallai Type Theorems for Hypergraphs. Combinatorics Seminar, Karlsruhe Institute of Technology, KIT **Dec. 2018**