

Anna Gujgiczer

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I started my studies in computer engineering, but soon realised that I was more interested in theoretical subjects. In the second year of my Master's degree I switched to studying graph theory. Now my main interest is in problems related to graph homomorphisms, graph operations and information theory. I am currently finishing my PhD.

Work

Young Researcher

2024 - present

ALFRÉD RÉNYI INSTITUTE OF MATHEMATICS

Education

Computer Science Phd

2020 - 2024

BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS

- Advisor: Gábor Simonyi
- Topic: Graph Colorings

Computer Engineer MSc

2018 - 2020

BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS

- Critical Systems Major
- Theory of Computation Minor

Computer Engineer BSc

2014 - 2018

BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS

- System Modeling Specialization

Publications

JOURNAL PAPERS

Anna Gujgiczer, Gábor Simonyi. Critical subgraphs of Schrijver graphs for the fractional chromatic number. *Graphs and Combinatorics*, 40(3): 64, 2024.

<https://doi.org/10.1007/s00373-024-02782-9>

Noga Alon, **Anna Gujgiczer**, János Körner, Aleksa Milojević, Gábor Simonyi. Structured Codes of Graphs. *SIAM Journal on Discrete Mathematics*, 37(1): 379-403, 2023.

<https://doi.org/10.1137/22M1487989>

Anna Gujgiczer, Gábor Simonyi. On multichromatic numbers of widely colorable graphs. *Journal of Graph Theory*, 100(2): 346-361, 2022.

<https://doi.org/10.1002/jgt.22785>

CONFERENCE PAPERS

Anna Gujgiczer, Gábor Simonyi, Gábor Tardos. On the generalized Mycielskian of complements of odd cycles. *12th Japanese-Hungarian Symposium on Discrete Mathematics and Its Applications*: 193-196, 2023.

<http://cs.bme.hu/jh2023/kotet23.pdf>

IN REVIEW

Anna Gujgiczer, Reza Naserasr, Rohini S, Taruni S. Winding number and circular 4-coloring of signed graphs

<https://arxiv.org/abs/2307.04652>

IN PREPARATION

Marthe Bonamy, Mónika Csikós, **Anna Gujgiczer**, Yelena Yuditsky. Domination and packing in some restricted graph classes

WORKS FROM BEFORE I STARTED TO WORK IN COMBINATORICS AND GRAPH THEORY

Anna Gujiczer, Márton Elekes. Model-based Automaton Learning for the Synthesis of Formal Models (Original title: Modellalapú automatatanulás formális modellek szintéziséhez), *Scientific Students' Associations Conference (Tudományos Diákköri Konferencia)*, 2017.

Anna Gujiczer, Márton Elekes, Oszkár Semeráth and András Vörös. Towards Model-Based Support for Regression Testing. *24th PhD Minisymposium*, 2017.

Anna Gujiczer, Márton Elekes. Supporting Regression Testing with Abstraction-based Learning (Original title: Absztrakcióval támogatott tanulás regressziós tesztelés támogatására). *Scientific Students' Associations Conference (Tudományos Diákköri Konferencia)*, 2016.

Talks

- Fall 2024 **Graph Codes** Combinatorics Seminar, Bolyai Institute, Szeged
- Summer 2024 **Hedetniemi's conjecture: What is left?** Cross-Community Collaborations in Combinatorics, Banff
- Summer 2024 **Widely colorable graphs and their multichromatic numbers** Workshop on Topological Combinatorics, Paris
- Spring 2024 **Critical subgraphs of Schrijver graphs for the fractional chromatic number** Combinatorics Seminar, Alfréd Rényi Institute of Mathematics, Budapest
- Winter 2024 **Codes on Graphs** Graph Theory Seminar, LaBri, Bordeaux
- Fall 2023 **Critical subgraphs of Schrijver graphs for the fractional chromatic number** Szeged WORKshop on Discrete Structures
- Summer 2023 **Circular chromatic number of generalised Mycielski graphs on odd cycles and other quadrangulations of the projective plane** Distributed Algorithms and Graphs Seminar, IRIF, Paris
- Summer 2023 **Circular chromatic number of generalised Mycielski graphs on odd cycles and other quadrangulations of the projective plane** Discrete Mathematics Seminar, G-SCOP, Grenoble
- Winter 2023 **The History of Hedetniemi's conjecture** Colloquium, Department of Mathematics, Indian Institute of Technology Madras
- Summer 2022 **On multichromatic numbers of widely colorable graphs** 8th Czech-Slovak International Symposium on Graph Theory, Combinatorics, Algorithms and Application
- Spring 2022 **On multichromatic numbers of widely colorable graphs** Combinatorics Seminar, Alfréd Rényi Institute of Mathematics, Budapest

Study Trips

- Spring 2023 **Visiting PHD Student** IRIF (Institut de Recherche en Informatique Fondamentale), Paris
- Winter 2023 **Visiting PHD Student** Indian Institute of Technology Madras, Chennai
- Summer 2019 **ETH Student Summer Research Fellowship Program**
- Summer 2018 **The Cornell, Maryland, Max Planck Pre-doctoral Research School**
- Summer 2018 **Huawei Seeds for the Future Program**

Teaching Experience

- 2020 – 2024 **Budapest Semesters in Mathematics** Graph Theory, Theory of Computation, Combinatorics 1 and 2, Mathematics of Network Science
- 2020 – 2022 **Eötvös Lóránd University** Introduction to Theory of Computing 1 and 2
- 2019 – 2024 **Budapest University of Technology and Economics** Languages and Automata, Probability Theory, Introduction to the Theory of Computing 1 and 2, Algorithm Theory, System Optimisation
- 2016 – 2019 **Budapest University of Technology and Economics** System Modeling, Formal Methods, Programming 2 and 3