

ALEXEY GORDEEV

c0pymaster.github.io \diamond aleksei.gordeev@umu.se, gordalserg@gmail.com

EDUCATION

-
- Ph.D.: St.Petersburg Department of V.A. Steklov Institute (PDMI RAS)** 2017 – 2022
Mathematics
Thesis title: Applications of polynomial method in combinatorics
- Specialist degree (equiv. B.Sc.+M.Sc.): Saint Petersburg State University** 2012 – 2017
Fundamental Mathematics and Mechanics
Thesis title: Applications of polynomial method to Dyson-type identity

RESEARCH POSITIONS AND VISITS

-
- Umeå University, Department of Mathematics and Mathematical Statistics** 2023 – 2025
Postdoctoral Researcher Umeå, Sweden
- EPFL, Bernoulli Center for Fundamental Studies** August 19 – September 13, 2024
Long-term research stay Lausanne, Switzerland
- Bulgarian Academy of Sciences, Institute of Mathematics and Informatics** June 2023
Visiting Researcher Sofia, Bulgaria
- The Euler International Mathematical Institute** 2019 – 2022
Junior Researcher Saint Petersburg, Russia

PUBLICATIONS

-
- A. Gordeev**, *Combinatorial Nullstellensatz and Turán numbers of complete r -partite r -uniform hypergraphs*. Discrete Mathematics, 347(7), 114037, 2024
- D. Cherkashin, **A. Gordeev**, G. Strukov, *Erdős–Hajnal problem for H -free hypergraphs*. Graphs and Combinatorics, 40(1), 1–15, 2024.
- A. Gordeev**, Y. Teplitskaya, *On regularity of maximal distance minimizers in \mathbb{R}^n* . Annali della Scuola Normale di Pisa - Classe di Scienze, 2023. In press, https://doi.org/10.2422/2036-2145.202208_004.
- A. Gordeev**, Z. Li, F. Petrov, Z. Shao, *The Alon–Tarsi Number of A Toroidal Grid*. European Journal of Combinatorics, 111, 103697, 2023.
- D. Cherkashin, **A. Gordeev**, *On list chromatic numbers of 2-colorable hypergraphs*. Proceedings of MIPT, 14(1), 49–57, 2022.
- A. Gordeev**, F. Petrov, *Alon–Tarsi numbers of direct products*. Moscow Journal of Combinatorics and Number Theory 10(4), 271–279, 2021.
- A. Gordeev**, *Constant terms of near-Dyson polynomials*. The Electronic Journal of Combinatorics 25(4), 2018.

PREPRINTS

-
- A. Gordeev**, K. Markström, L.D. Öhman, *Near triple arrays*. <https://arxiv.org/abs/2503.07166>, 2025.
- A.S. Árnadóttir, **A. Gordeev**, S. Lato, T. Randrianarisoa, J. Vermant, *Cayley incidence graphs*. <https://arxiv.org/abs/2411.19428>, 2024.
- D. Cherkashin, **A. Gordeev**, G. Strukov, Y. Teplitskaya, *Maximal distance minimizers for a rectangle*. <https://arxiv.org/abs/2106.00809>, 2021.
- D. Cherkashin, **A. Gordeev**, G. Strukov, Y. Teplitskaya, *On minimizers of the maximal distance functional for a planar convex closed smooth curve*. <https://arxiv.org/abs/2011.10463>, 2020.

TEACHING

-
- Lecturer (Algorithms and Data Structures)** Saint Petersburg State University
- Algorithms and Data Structures I Fall 2019, Spring 2021
- Algorithms and Data Structures II Spring 2019, Spring 2020, Fall 2021
- Algorithms and Data Structures III Fall 2019, Fall 2020

TALKS

“On a travelling salesman problem in the unit cube”*Theory Coffee Seminar, EPFL, Lausanne, Switzerland*

March 17, 2025

“Non-extremal triple arrays and near-triple arrays”*Open University Discrete Mathematics Seminar, Milton Keynes, UK, online talk*

November 27, 2024

“Combinatorial Nullstellensatz and the Erdős box problem”*Algebraic Graph Theory Seminar, Waterloo, Canada, online talk*

September 30, 2024

Synergies of combinatorics and theoretical computer science, Lausanne, Switzerland

August 19, 2024

“New non-extremal triple arrays”*30th British Combinatorial Conference, London, UK*

July 3, 2024

“Planar bubble cluster. Connectivity and other problems”*Conference of Small Research Groups, Saint Petersburg, Russia*

December 1, 2021

“On list chromatic numbers of 2-colorable hypergraphs”*Groups and Graphs, Semigroups and Synchronization, Sochi, Russia, online talk*

August 13, 2021

“Proof of the List Coloring Conjecture for line perfect graphs”*Conference on Graphs, Networks, and Their Applications, Moscow, Russia*

May 14, 2019

“Constant terms of near-Dyson polynomials”*The Second Alan Turing Contest, Saint Petersburg, Russia*

June 29, 2017

WORKSHOPS

Synergies of Combinatorics and Theoretical Computer Science*Lausanne, Switzerland*

August 19 – August 23, 2024

Discrete math and Geometry Research Symposium (DiGResS)*Umeå, Sweden*

May 27 – May 29, 2024

Workshop on Open Problems in Combinatorics and Geometry*Adygea, Russia*

October 13 – 19, 2019

3rd Hungarian-Russian Combinatorics workshop*Moscow and Petrozavodsk, Russia*

May 20 – 25, 2019

ACADEMIC AND COMMUNITY SERVICE

Reviewed for SIAM Journal on Discrete Mathematics, Combinatorica, Discrete Mathematics, Journal of Combinatorial Designs, etc.

Took part in organizing Summer Informatics Camp in Perm, Russia in 2013–19 and 2021

Supervised “Steiner trees” track at the Research School in Mathematics and Computer Science for high school students in Sirius, Sochi, Russia in January 2022

Gave a lecture “Approximation algorithms” and prepared a training contest for the IOI Bulgarian team in July 2023

OTHER EMPLOYMENT

WorldQuant Research (Eurasia), Saint Petersburg Research Office*Quantitative Researcher*

2017 – 2019

COMPETITIVE PROGRAMMING ACHIEVEMENTS

ACM ICPC World Champion

2016

International Olympiad in Informatics Gold Medalist

2012

PROGRAMMING SKILLS

C++, Python, SageMath