

ALEXEY GORDEEV

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EDUCATION

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

RESEARCH POSITIONS AND VISITS

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

PUBLICATIONS

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- 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* . To appear in Annali della Scuola Normale di Pisa - Classe di Scienze, 2023.
- 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

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- 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)	<i>Saint Petersburg State University</i>
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**“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

VK Cup awardee

2018

Google Hash Code finalist

2017

ACM ICPC world champion

2016

International Olympiad in Informatics gold medalist

2012

PROGRAMMING SKILLS**C++, Python, SageMath**