

ALEXEY GORDEEV

alexey-gordeev.github.io ♦ 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

GRANTS

Momentum Marie Skłodowska-Curie Actions Postdoctoral Fellowship 2025

PUBLICATIONS

A. Gordeev, K. Markström, L.D. Öhman, *Near triple arrays*. J. Combin. Theory Ser. A 219, 106121, 2026.

A.S. Árnadóttir, **A. Gordeev**, S. Lato, T. Randrianarisoa, J. Vermant, *Cayley incidence graphs*, Ars Math. Contemp. 2025. In press, <https://doi.org/10.26493/1855-3974.3510.a82>.

A. Gordeev, Y. Teplitskaya, *On regularity of maximal distance minimizers in \mathbb{R}^n* . Ann. Sc. Norm. Super. Pisa Cl. Sci. 26(3), 1639–1663, 2025.

A. Gordeev, *Combinatorial Nullstellensatz and Turán numbers of complete r -partite r -uniform hypergraphs*. Discrete Math. 347(7), 114037, 2024.

D. Cherkashin, **A. Gordeev**, G. Strukov, *Erdős–Hajnal problem for H -free hypergraphs*. Graphs Combin. 40(1), 1–15, 2024.

A. Gordeev, Z. Li, F. Petrov, Z. Shao, *The Alon–Tarsi Number of A Toroidal Grid*. European J. Combin. 111, 103697, 2023.

D. Cherkashin, **A. Gordeev**, *On list chromatic numbers of 2-colorable hypergraphs*. Proc. MIPT 14(1), 49–57, 2022.

A. Gordeev, F. Petrov, *Alon–Tarsi numbers of direct products*. Mosc. J. Comb. Number Theory 10(4), 271–279, 2021.

A. Gordeev, *Constant terms of near-Dyson polynomials*. Electron. J. Combin. 25(4), 2018.

PREPRINTS

A. Gordeev, L.D. Öhman, *Resolvable triple arrays*. <https://arxiv.org/abs/2512.08681>, 2025.

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.

SELECTED TALKS

“Bollobás–Meir conjecture for the TSP in the unit cube holds asymptotically”
PGMO Days 2025, Paris, France November 18, 2025

“A Christofides-based approach to the travelling salesman problem in the unit cube”
Eurocomb’25, Budapest, Hungary August 28, 2025

“Near triple arrays” <i>Eurocomb’25, Budapest, Hungary</i>	August 25, 2025
“Combinatorial Nullstellensatz and the Erdős box problem” <i>Synergies of combinatorics and theoretical computer science, Lausanne, Switzerland</i>	August 19, 2024
“New non-extremal triple arrays” <i>30th British Combinatorial Conference, London, UK</i>	July 3, 2024
“Planar bubble cluster. Connectivity and other problems” <i>Conference of Small Research Groups, Saint Petersburg, Russia</i>	December 1, 2021
“On list chromatic numbers of 2-colorable hypergraphs” <i>Groups and Graphs, Semigroups and Synchronization, Sochi, Russia, online talk</i>	August 13, 2021
“Constant terms of near-Dyson polynomials” <i>The Second Alan Turing Contest, Saint Petersburg, Russia</i>	June 29, 2017

WORKSHOPS

Synergies of Combinatorics and Theoretical Computer Science <i>Lausanne, Switzerland</i>	August 19 – August 23, 2024
Discrete math and Geometry Research Symposium (DiGResS) <i>Umeå, Sweden</i>	May 27 – May 29, 2024
Workshop on Open Problems in Combinatorics and Geometry <i>Adygea, Russia</i>	October 13 – 19, 2019
3rd Hungarian-Russian Combinatorics workshop <i>Moscow and Petrozavodsk, Russia</i>	May 20 – 25, 2019

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
Teacher (Algorithms and Data Structures)	<i>Summer Informatics Camp, Perm, Russia</i>
3 week course with lectures and practice sessions	August 2013 – 2019, September 2021

ACADEMIC AND COMMUNITY SERVICE

Reviewed for SIAM Journal on Discrete Mathematics, Combinatorica, Discrete Mathematics, Journal of Combinatorial Designs, Discussiones Mathematicae Graph Theory, etc.	
Gave a lecture and held a training contest for the Bulgarian IOI team	July 2023
Supervised “Steiner trees” track at the Research School in Mathematics and Computer Science for high school students in Sirius, Russia	January 2022
Took part in organizing Summer Informatics Camp in Perm, Russia	2013–19, 2021

OTHER EMPLOYMENT

WorldQuant Research (Eurasia), Saint Petersburg Research Office <i>Quantitative Researcher</i>	2017 – 2019
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ACHIEVEMENTS IN COMPETITIONS

World Champion, ACM ICPC World Finals	2016
Gold Medal, International Olympiad in Informatics	2012
Winner’s Diploma, Russian National Olympiad in Informatics	2011, 2012
Winner’s Diploma, Russian National Olympiad in Mathematics	2010

PROGRAMMING SKILLS

C++, Python, SageMath