Pavel Zakharov

pavel.zakharov@tu-dortmund.de | +49 15234632591 | Google Scholar

Education

TU Dortmund, Germany, Department of Mathematics, PhD Program	2023 – present
Higher School of Economics, Moscow, Russia, Data Science, Math in Machine Learning, Master Program	2021 – 2023
Higher School of Economics, Moscow, Russia, Faculty of Computer Science, Applied Mathematics and Informatics, Bachelor Program	2017 – 2021
Physical-Mathematical School 2007, Moscow, Russia, Graduated with Golden Medal.	2017

Positions

TU Dortmund, Department of Computer Science, Research Assistant	2023 – present
University of New South Wales, Research Internship	2025
HSE University, Laboratory of Theoretical Computer Science, Research Assistant	2019 – 2023
Yandex LLC, Yandex.Routing, Yandex.Adtech, Software engineer	2019 – 2020

Research

Preprints

A note on the maximum clique LP relaxation, To appear in *Operations Research Letters*.	2026
Fluctuations of the Ising free energy on Erdős-Rényi graphs , A. Coja-Oghlan, D. Kaaser, M. Rolvien, P. Zakharov, K. Zampetakis.	2026
The random k-SAT Gibbs uniqueness threshold revisited, A. Chatterjee, A. Coja-Oghlan, C. Greenhill, V. Pfenninger, M. Rolvien, P. Zakharov, K. Zampetakis, To appear in *Combinatorics, Probability and Computing*.	2025
The number of random 2-SAT solutions is asymptotically log-normal A. Chatterjee, A. Coja-Oghlan, N. Müller, C. Riddlesden, M. Rolvien, P. Zakharov, H. Zhu, To appear in *Theory of Computing*.	2024

Journal publications

WalkSAT is linear on random 2-SAT,
P. Berenbrink, A. Coja-Oghlan, C. Cooper, T. Götte, L. Hintze, P. Zakharov,
SIAM Journal on Discrete Mathematics **39 (4)** *(2025) 1939–1952*.

Fractional colourings of random hypergraphs,
D. Shabanov, P. Zakharov,
Russian Mathematical Surveys **78 (6)** *(2023) 183–184*.

Asymptotic normality of the giant component size in a random bipartite graph,
D. Shabanov, P. Zakharov,
Trudy MIPT **15** *(2023) 23–32 (in Russian)*.

On the maximal cut in a random hypergraph,
D. Shabanov, P. Zakharov,
Doklady Mathematics **104** *(2021) 336–339*.

Talks

Midwinter meeting in Discrete Probability, *Umeå, Sweden*.	2026
Algorithmic Decision Theory Reading Group, *Sydney, Australia*.	2025
22nd International Conference on Random Structures and Algorithms, *Vienna, Austria*.	2025
28th International Conference on Randomization and Computation, *London, United Kingdom*.	2024
Algorithms, Dynamics, and Information Flow in Networks Seminar, *Online*.	2024
European Conference on Combinatorics, Graph Theory and Applications, *Online*.	2021

Research grants

Co-investigator on "Extremal properties of random graphs". Russian Foundation for Basic Research and Iran National Science Foundation, no. 20-51-56017	2020 – 2022
Co-investigator on "Structural properties of random graphs and hypergraphs". Russian Science Foundation, no. 22-21-00411	2021 – 2023

Teaching

Higher School of Economics, Faculty of Computer Science	2021 – 2024

Theoretical Computer Science — Lecturer, course design
Mathematical Statistics — Design of study materials, tutoring
Algorithms and Data Structures — Design of study materials, tutoring
Theory of Computation — Tutoring
Convex Programming and Approximation Algorithms — Tutoring
Probability Theory — Tutoring

Sberbank	2021/22

Graph Theory – Tutoring

Service and outreach

"Combi meets Stat Physics" reading group, UNSW Organizing	2025
Peer reviewing and subreviewing Annals of Applied Probability, Australasian Journal of Combinatorics, Combinatorica, Random Structures and Algorithms, STACS	
Project programme in mathematics & theoretical computer science, "Sirius" Educational Center Mentor	2022
Mathematics summer school "Kostroma open" Invited teacher	2017

Other

Ilya Segalovich scholarship Awarded by Yandex, €10K	2021-2022