

# Pavel Zakharov

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## 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

<b>The number of random 2-SAT solutions is asymptotically log-normal</b> A. Chatterjee, A. Coja-Oghlan, N. Müller, C. Riddlesden, M. Rolvien, P. Zakharov, H. Zhu, To appear in <i>Theory of Computing</i> .	2024
<b>The random <math>k</math>-SAT Gibbs uniqueness threshold revisited,</b> A. Chatterjee, A. Coja-Oghlan, C. Greenhill, V. Pfenninger, M. Rolvien, P. Zakharov, K. Zampetakis, To appear in <i>Combinatorics, Probability and Computing</i> .	2025

### Journal publications

<b>WalkSAT is linear on random 2-SAT,</b> P. Berenbrink, A. Coja-Oghlan, C. Cooper, T. Götte, L. Hintze, P. Zakharov, <i>SIAM Journal on Discrete Mathematics</i> <b>39</b> (4) (2025) 1939–1952.
<b>Fractional colourings of random hypergraphs,</b> D. Shabanov, P. Zakharov, <i>Russian Mathematical Surveys</i> <b>78</b> (6) (2023) 183–184.
<b>Asymptotic normality of the giant component size in a random bipartite graph,</b> D. Shabanov, P. Zakharov, <i>Trudy MIPT</i> <b>15</b> (2023) 23–32 (in Russian).
<b>On the maximal cut in a random hypergraph,</b> D. Shabanov, P. Zakharov, <i>Doklady Mathematics</i> <b>104</b> (2021) 336–339.

## Talks

<b>Algorithmic Decision Theory Reading Group,</b> <i>Sydney, Australia.</i>	2025
<b>22nd International Conference on Random Structures and Algorithms,</b> <i>Vienna, Austria.</i>	2025
<b>28th International Conference on Randomization and Computation,</b> <i>London, United Kingdom.</i>	2024
<b>Algorithms, Dynamics, and information Flow in Networks Seminar,</b> <i>Online.</i>	2024
<b>European Conference on Combinatorics, Graph Theory and Applications,</b> <i>Online.</i>	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

<i>Higher School of Economics, Faculty of Computer Science</i>	2021 – 2024
<b>Theoretical Computer Science</b> — Lecturer, course design	
<b>Mathematical Statistics</b> — Design of study materials, tutoring	
<b>Algorithms and Data Structures</b> — Design of study materials, tutoring	
<b>Theory of Computation</b> — Tutoring	
<b>Convex Programming and Approximation Algorithms</b> — Tutoring	
<b>Probability Theory</b> — Tutoring	
<i>Sberbank</i>	2021/22
<b>Graph Theory</b> – Tutoring	

## Service and outreach

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

## Other

<b>Ilya Segalovich scholarship</b>	2021-2022
Awarded by Yandex, €10K	