+7 (926) 292 8105
zaitsevatanja@gmail.com
Date of birth: 26.01.1998

Tatiana Zaitceva

Education

Sep. 2023 **Ph.D. Thesis in Mathematics**, (Steklov's institute, Moscow, Russia). Thesis: "Self-affine tilings and multivariate approximation". Advisor: Professor **Vladimir Protasov**, corresponding member of RAS, University of L'Aquila (Italy).

2021–2024 **The Ph.D. school in Mathematics**, Lomonosov Moscow State University, Russia

2015 – 2021 **Specialist degree in Mathematics**, GPA: 5.0/5.0, Lomonosov MSU, Moscow, Russia

Sep. 2020 – June 2022 **AI Masters, MS level program in Data Science**, Moscow, Russia

- **Courses:** Machine Learning, Deep Learning, Numerical Linear Algebra, Optimization, Discrete Optimization, Statistics, Information Theory, Big Data Engineering.

Publications

- V. Protasov, T. Zaitseva, "Anisotropic refinable functions and the tile B-splines", Applied and Computational Harmonic Analysis, 2025, DOI.
- T. Zaitseva, "Supersmooth tile B-splines", Sb. Math., 2025, DOI.
- T. Zaitseva, "Self-affine splines", Uspekhi Mat. Nauk, 2024, DOI.
- V. Protasov, T. Zaitseva, "Complete Characterization of Polyhedral Self-Affine Tiles", Discrete Comp. Geom, 2023, DOI.
- V. Protasov, T. Zaitseva, "Self-affine 2-attractors and tiles", Mat. Sb., 2022, DOI.
- T. Zaitseva, Yu. Malykhin, K. Ryutin, "Recovery of regular ridge functions on the ball", Constr. Approx, 2022, DOI.
- T. Zaitseva, "Multivariate tile B-splines", Izv. Math, 2023, DOI.
- D. Logofet, V. Protasov, T. Zaitseva, "Pattern-Multiplicative Average of Nonnegative Matrices: When a Constrained Minimization Problem Requires Versatile Optimization Tools", Mathematics, 2022, DOI.
- V. Yu. Protasov, T.I. Zaitseva, "Self-affine tilings of polyhedra", Doklady Mathematics, 2021, DOI.
- Yu.V. Malykhin, K.S. Rjutin, T.I. Zaitseva, "On recovery of regular ridge-functions", Math. Notes, 109:2 (2021), 307–311, DOI.
- T.I. Zaitseva, "Simple tiles and attractors", Sb. Math., 2020, DOI.
- T. Zaitseva, "Haar wavelets and subdivision algorithms on the plane", *Advances in Systems Science and Applications*, 2017, PDF.

Research and work experience (recent)

since 2024 **Moscow State University, Faculty of Mechanics and Mathematics, Department of General Problems of Control**, Junior Researcher, Moscow, Russia

since 2019 **Moscow State University, Laboratory "High-dimensional approximation and applications" (led by Prof. Vladimir Temlyakov)**, Moscow, Russia, link

Summer 2022 **Internship at Snap Inc., neural rendering**, London, UK

- Optimized meshes in the pipeline of inverse rendering for 3d reconstruction.

Summer 2020 **Research Intern**, *CGF Studio (computer graphics, character animation)*, Russia

- 3d skeleton-based action recognition, texture expansion. Literature review and tests.

Summer 2019 **EPFL summer internship (E3 program, Laboratory of Applied Photonics Devices, led by Prof. Christophe Moser)**, Lausanne, Switzerland, link

Fall 2019 **Research Intern**, *Huawei (ML, deep learning)*, Moscow, Russia

2015 – 2017 **Intern**, *Motorica (bionic hand protheses, sensors, 3D printing)*, Moscow, Russia

Programming skills

- **Python** (scientific libraries, Pytorch, bash, html/css, R, Matlab, Blender — basic).

Conferences (recent)

2025 Winter Mathematical School, Voronezh State University.

2024 IV conference of Mathematical Centres, Saint Petersburg, Russia.

2024 Conference "Approximation, Optimization, and Sparse Recovery", Sochi, Russia.

2024 Conference "Non-holonomic days in Pereslavl", Pereslavl, Russia.

2023 III conference of Mathematical Centres, Maykop, Russia.

2023 SIAM Conference on Computational Geometric Design, Italy.

2023 Conference "Approximation, Expansions and Computer Science", Sochi, Russia.

2022 SIGGRAPH poster, Vancuver, Canada, proceedings.

2022 CG Week, Young Researchers Forum, Germany.

2022 Curves and Surfaces, Arcachon, France.

2022 Eurographics Doctoral Consortium, France.

Teaching

since 2021 Conduct seminars on convex analysis and optimization, variational calculus at MSU.

since 2020 Private teacher in many undergraduate courses in math and CS.

Awards (main)

2015, 2014 The prize winner of **Russian National olympiad** in Mathematics (top 50 in Russia).

2015 The prize winner of **Russian National olympiad** in Informatics (top 110 in Russia).

2024 The Prize for Young Mathematicians by Sirius Mathematical Center (3 PhD students).

2023 **The best poster**, Skoltech summer school in ML, SMILES.

2022 **The best technical poster**, International Mesh Roundtable, SIAM.

2019 The **winner** of "NTI student olympiad", robotics, Skoltech and Innopolis.

2017 – 2018 **The best oral presentation & poster**, "Control, Information, and Optimization".

Scholarships (main)

2021 – 2025 Foundation for the advancement of mathematics "BASIS" (4 PhD students).

2023 – 2024 Scholarship for several students in Lomonosov MSU with achievements in science.

2017 – 2021 Scholarship for top 10% of students in Lomonosov Moscow State University.

2018 – 2021 Chebyshev individual scholarship.

2015 – 2021 Russian Federation Presidential grant for students.

Languages

- English, German (B1), French (A2)