

Mikhail Tikhonov

Education

- 2020 - 2026 **PhD in Mathematics**, *University of Virginia*, Charlottesville, VA
(expected)
Advisor: L. Petrov
- 2015 - 2020 **BA in Physics**, *Lomonosov Moscow State University*, Moscow, Russia, 4.75 out of 5
Advisor: G. V. Koval
BA thesis: "**Exact solution of a spin chain in quenched disorder**"

Keywords

integrable probability, statistical mechanics, interlacing particle systems
vertex models, symmetric functions, representation theory, algebraic combinatorics

Publications

- 2025 Mikhail Tikhonov. "**Random permutations and stochastic Demazure product**". *In preparation.*
- 2023 Leonid Petrov and Mikhail Tikhonov. **Asymptotics of noncolliding q -exchangeable random walks**. In: *Journal of Physics A: Mathematical and Theoretical* 56. arXiv: 2303.02380 [math.PR].
- 2021 I. Mursenkova, M. Timokhin, M. Tikhonov, A. Militsina, and A. Kuznetsov. **Digital processing of shadowgraph images taking into account the diffraction of light at a shock front**. In: *Journal of Physics: Conference Series* 2127 Issue 1.
- 2020 Leonid Petrov and Mikhail Tikhonov. **Parameter symmetry in perturbed GUE corners process and reflected drifted Brownian motions**. In: *Journal of Statistical Physics* 181. arXiv: 1912.08671 [math.PR].
M. Yu. Timokhin, M. Tikhonov, I. V. Mursenkova, and I. A. Znamenskaya. **Shock-wave thickness influence to the light diffraction on a plane shock wave**. In: *Physics of Fluids* 32 Issue 11.
- 2019 Maksim Timokhin and Mikhail Tikhonov. **Numerical simulations of micro-channel devices with Lattice Boltzmann method**. In: *AIP Conference Proceedings* 2132 Issue 1.

Talks, posters

- Dec 2025 **Random Permutations from q -Demazure product**, *Geometry, Statistical Mechanics, and Integrability Reunion conference*, Lake Arrowhead, CA
- Aug 2025 **Writing Effective Letters of Recommendation**, *Annual Teaching Workshop at University of Virginia*, Charlottesville, VA
- Oct 2024 **Noncolliding q -exchangeable random walks**, *Ohio State University Probability Seminar*, Columbus, OH
- Apr 2024 **Asymptotics of Noncolliding q -exchangeable random walks and lozenge tilings**, *Southern California Discrete Mathematics Symposium at UCLA*, Los Angeles, CA
- Nov 2023 **Noncolliding q -exchangeable random walks and lozenge tilings**, *UVA Probability Seminar*, Charlottesville, VA
- Jul 2023 **Noncolliding q -exchangeable random walks**, *Probability and Algebra: New Expressions In Mathematics*, College Station, TX

Sep 2022	Markov jumps for GUE corner process , <i>Graduate Student Probability Conference at University of Wisconsin - Madison</i> , Madison, WI
Apr 2022	Parameter symmetry in the perturbed GUE corners eigenvalues , <i>Graduate Student Seminar at UVA</i> , Charlottesville, VA
Nov 2021	Markov jumps for GUE corner process , <i>Integrable Probability and Related Fields from a Safe Distance</i> , online talk
Feb 2021	Permuting the GUE corners eigenvalues , <i>UVA Probability Seminar</i> , online talk
Dec 2020	Parameter symmetry in perturbed GUE corners process , <i>XVI Brunel – Bielefeld Workshop on RMT</i> , London, UK, online poster talk
Jul 2018	Numerical Simulations of MicroChannel Devices with Lattice Boltzmann Method , <i>31st International Symposium on Rarefied Gas Dynamics</i> , Glasgow, UK, poster
Apr 2018	Exact solution of a spin chain in quenched disorder , <i>Lomonosov Conference</i> , Moscow, Russia

Extended Visits and appointments

Mar - Jun 2024	Core Participant , <i>Long program "Geometry, Statistical Mechanics, and Integrability" at IPAM</i>
Jan 2020	Visitor , <i>University of Virginia</i> , Project: "Parameter symmetry in perturbed GUE corners process", Supervisor: L. Petrov
Spring 2018	Research Intern , <i>mathCCES RWTH</i> , Project: "Nonlinear problems based on Boltzmann equation", Supervisor: M. Torrilhon

Summer schools, short visits

Jul 2024	Virginia Integrable Probability Summer School 2024 , <i>University of Virginia</i>
Jun 2022	Random Matrix Theory Summer School , <i>University of Michigan</i>
Jun 2022	Summer school on Free Probability, Random Matrices, and Applications , <i>University of Wyoming</i>
Nov 2021	Collaboration visit , <i>MSRI (now SLMath)</i> , Supervisor: L. Petrov, Project: "Asymptotics of noncolliding q-exchangeable random walks"

Service

Sep 2025 - present	Directed Reading Program committee member , <i>University of Virginia</i>
Sep 2025 - present	Speaker at Summer MATH Teaching Workshop , <i>University of Virginia</i>
Jan - May 2025	Directed Reading Program Mentor , <i>University of Virginia</i>
Mar, Sep 2025	Manuscript Reviewer , <i>Annales Henri Poincaré</i>
Apr 2025	Manuscript Reviewer , <i>Electronic Journal of Probability</i>
Sep 2024	Manuscript Reviewer , <i>Journal of Statistical Physics</i>
Jul 2024	Organizer , <i>Virginia Integrable Probability Summer School 2024</i> , https://lpetrov.cc/vipss2024/
Apr 2020	Organizer , <i>Online conference on Statistical Mechanics, Integrable Systems and Probability</i> , http://mtikhonov.com/smisp/

Teaching

Spring 2026	Calculus III , <i>Instructor</i> , University of Virginia, in person
F25, F23, S22	Survey of Calculus I , <i>Instructor</i> , University of Virginia, flipped classroom, in person
Spring 2025	Calculus II , <i>Instructor</i> , University of Virginia, flipped classroom, in person
Fall 2022	Calculus I , <i>Instructor</i> , University of Virginia, flipped classroom, in person
Fall 2021	Ordinary Differential Equations , <i>TA, Discussion hours</i> , University of Virginia, in person
Summer 2021	Calculus III , <i>TA, Discussion hours</i> , University of Virginia, online
Fall 2020	Ordinary Differential Equations , <i>TA, Discussion hours</i> , University of Virginia, online

- F19,S20 **Symmetries and Group theory**, *TA, Discussion hours*, Lomonosov Moscow State University, flipped classroom, in person
- Fall 2019 **Relativity Theory for Pedestrians**, *Instructor and Course Author*, Lomonosov Moscow State University, engagement course for high school students
- Fall 2019 **General Physics**, *Teaching Assistant*, Lomonosov Moscow State University