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Mikhail Tikhonov

Education

2020 – present **PhD in Mathematics**, *University of Virginia*, Charlottesville, VA.
Advisor: L. Petrov

2015 – 2020 **BA in Physics**, *Lomonosov Moscow State University*, Moscow, Russia, 4.75 out of 5.
Advisor: G. V. Koval

Key Words

- statistical mechanics, dimer models, interlacing particle systems, integrability
- symmetric functions, representation theory, algebraic combinatorics, mean field theory

Publications

2023 Leonid Petrov and Mikhail Tikhonov. Asymptotics of noncolliding q-exchangeable random walks, 2023.

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*, volume 2127, page 012001. IOP Publishing, 2021.

2020 M Yu Timokhin, M Tikhonov, IV Mursenkova, and IA Znamenskaya. Shock-wave thickness influence to the light diffraction on a plane shock wave. *Physics of Fluids*, volume 32, page 116103. AIP Publishing LLC, 2020.

2020 Leonid Petrov and Mikhail Tikhonov. Parameter symmetry in perturbed gue corners process and reflected drifted brownian motions. *Journal of Statistical Physics*, volume 181, pages 1996–2010. Springer, 2020.

2019 Maksim Timokhin and Mikhail Tikhonov. Numerical simulations of micro-channel devices with lattice boltzmann method. In *AIP Conference Proceedings*, volume 2132, page 160006. AIP Publishing LLC, 2019.

Talks, posters

Sep 2022 **Markov jumps for GUE corner process**, *Graduate Student Probability Conference at University of Wisconsin - Madison*, Madison, WI.

Apr 2022 **Parameter symmetry in the perturbed GUE corners eigenvalues**, *Graduate Student Seminar at UVA*, Charlottesville, VA.

Nov 2021 **Markov jumps for GUE corner process**, *Integrable Probability and Related Fields from a Safe Distance*, online talk.

Feb 2021 **Permuting the GUE corners eigenvalues**, *Probability seminar at UVA*, online talk.

Dec 2020 **Parameter symmetry in perturbed GUE corners process**, *XVI Brunel – Bielefeld Workshop on RMT*, London, UK, online poster talk.

Jul 2018 **Numerical Simulations of MicroChannel Devices with Lattice Boltzmann Method**, *31st International Symposium on Rarefied Gas Dynamics*, Glasgow, UK, poster.

Apr 2018 **Exact solution of a spin chain in quenched disorder**, *Lomonosov Conference*, Moscow, Russia.

Summer schools, collaboration

Jun 2022 **Random Matrix Theory Summer School**, *University of Michigan*.

Jun 2022 **Summer school on Free Probability, Random Matrices, and Applications**, *University of Wyoming*.

Nov 2021 **Collaboration Visit**, *MSRI (now SLMath)*, Project: asymptotics of noncolliding q-exchangeable random walks.

Jan 2020 **Collaboration Visit**, *University of Virginia*, Supervisor: L. Petrov, Project: Parameter symmetry in perturbed GUE corners process.

Spring 2018 **Internship**, *mathCCES RWTH*, Supervisor: M. Torrilhon , Project: Nonlinear problems based on Boltzmann equation.

Service

Apr 2020 **Co-organizer**, *Online conference on Statistical Mechanics, Integrable Systems and Probability*, http://mtikhonov.com/smisp/.

2020 - 2021 **Advisor for undergraduate research project**, *Lomonosov Moscow State University, Department of Mathematics*, Project: Gas flow modeling with LBM.

Affiliations

2020 **Junior Researcher**, *IITP RAS*.

2018 - 2020 **Professor Assistant**, *Lomonosov Moscow State University*.

2018 - 2019 **Lab Assistant**, *Lomonosov Moscow State University*.

Thesis

2019 **BA thesis: Exact solution of a spin chain in quenched disorder**, *Advisor: G.V. Koval*, Grade: A.

Teaching

Fall 2023 **Calculus I**, *Instructor*, University of Virginia, flipped classroom, in person.

Spring 2022 **Survey of Calculus**, *Instructor*, University of Virginia, flipped classroom, in person.

Fall 2021 **Ordinary Differential Equations**, *Discussion hours*, University of Virginia, in person.

Summer 2021 **Calculus III**, *Discussion hours*, University of Virginia, online.

Fall 2020 **Ordinary Differential Equations**, *Discussion hours*, University of Virginia, online.

Fall 2019 - Spring 2020 **Symmetries and Group theory**, *Instructor*, Lomonosov Moscow State University, flipped classroom, in person.

Fall 2019 **Mathematics and Relativity**, *Instructor and Course Author*, Lomonosov Moscow State University.

Fall 2019 **General Physics**, *Teaching Assistant*, Lomonosov Moscow State University.

Fall 2018 **Differential forms in Physics**, *Teaching Assistant*, Lomonosov Moscow State University.