

Dmitry Solovyev

Date of birth: 4th of June 1996
Citizenship: Russian Federation
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RESEARCH INTERESTS

- Representation theory of quantum groups and Lie algebras
- Mathematical physics(TQFT, Integrable models and probability, PDEs)

EDUCATION

University of Indiana, Bloomington

Ph.D. in Pure Mathematics, Advisor: Vladimir Turaev
Thesis: TBA

2020–Current

Saint Petersburg State University

Ph.D. in Theoretical Physics, Advisor: Nicolai Reshetikhin
Thesis: TBA

2020–Current

Saint Petersburg State University

M.S. in Physics(with Honours), Advisor: Nicolai Reshetikhin
Thesis: “*Restricted random walks and large tensor powers of representations of quantum groups at roots of unity*”

2018–2020

Saint Petersburg State University

B.S. in Physics(with Honours), Advisor: Anton Nazarov, Gleb Arutyunov
Thesis: “*Crystal bases for spin chains in the AdS/CFT correspondence*”

2014–2018

PUBLICATIONS

- Postnova, O.; Reshetikhin, Yu.; Solovyev, D. TBA
- Lachowska, A.; Postnova, O.; Reshetikhin, Yu.; Solovyev, D. Multiplicities in tensor powers of fundamental representations of small quantum sl_2 , TBA
- Dymarskiy, A.; Pavlenko, K.; Solovyev, D. Zero modes of local operators in 2d CFT on a cylinder. J. High Energ. Phys. 2020, 172 (2020).
- Sheykin, A.; Solovyev, D.; Sukhanov, V.; Paston, S. Modifications of Gravity Via Differential Transformations of Field Variables. Symmetry 2020, 12, 240.
- Sheykin, A.; Solovyev, D.; Paston, S. Global Embeddings of BTZ and Schwarzschild-AdS Type Black Holes in a Flat Space. Symmetry 2019, 11, 841.

Other:

- Solovyev, D. Phenomenological epoché in mathematics and pedagogics(in Russian). Second Regional Scientific Conference of Teachers of Mathematics and Physics 2020, 32-35.

GRANTS AND AWARDS

- Increased State Academic Scholarship, 2020
- Award for the best talk in section for Theoretical Physics, OpenScience Forum, 2019
- Increased State Academic Scholarship, 2019
- Russian Foundation for Basic Research, “Study of fluctuations in statistical mechanics models in the presence of the limit shape”, 18-01-00916
- Russian Foundation for Basic Research, “The study of modified theories of gravity based on alternative choice of variables”, 18-31-00169
- Russian Foundation for Basic Research, “Study of the evolution equations in gauge theories”, 19-02-00983

TALKS

- “Classical mechanics and symplectic geometry”, Student seminar on geometric approach to gravitation, SPBSU, Department of High Energy and Elementary Particle Physics, 2019
- “Introduction to determinantal point processes”, Integrable probability seminar, PDMI, 2019
- “Multiplicities of irreducible and indecomposable components in large tensor powers of representations of $u_q(sl_2)$ at roots of unity and random walks”, Saint Petersburg Seminar on Representation theory and Dynamical Systems, PDMI, 2019
- “Global embeddings of BTZ and Schwarzschild-AdS metrics and their geometric properties”, OpenScience Forum, Gatchina, 2019
- “The limit shape phenomena in representation theory of quantum groups”, International School of Subnuclear Physics, Sicily, Italy, 2019
- “Spectral geometry as an extension of the Standard Model”, Special Seminar on Weak Interaction Theory, SPBSU, Department of High Energy and Elementary Particle Physics, 2019
- “Introduction to the Volume Conjecture”, Topics in Modern Physics, SPBSU, Department of High Energy and Elementary Particle Physics, 2019
- Crystal bases for spin chains in the AdS/CFT correspondence, International Student Conference “Science and Progress”, 2018
- “The basics of TQFT”, Special Seminar on Quantum Field Theory, SPBSU, Department of High Energy and Elementary Particle Physics, 2018
- Global isometric embeddings of AdS black holes in a flat space, VI International Conference “Models in Quantum Field Theory”, 2018
- “Hopf algebras and quantum groups”, Pre-CQIS Summer School on Theoretical and Mathematical Physics, Center for Advanced Studies, Skoltech, 2018
- “Introduction to Lie algebras, quantum groups and crystal bases”, Quantum Field Theory Seminar, PDMI, 2017
- “Group central extensions”, Mathematical Physics Student Seminar, SPBSU, 2016

PARTICIPATION IN CONFERENCES AND SCHOOLS

- Fifth Winter School-Conference “String Theory, Integrable Models and Representation Theory”, Center for Advanced Studies, Skoltech, Moscow, 2020
- Classical and Quantum Integrable Systems, EIMI, Saint Petersburg, 2019
- International School of Subnuclear Physics, Sicily, Italy, 2019
- Euler Symposium in Theoretical and Mathematical Physics, EIMI, Saint Petersburg, 2019
- The Art of Quantization (dedicated to 85th anniversary of L.D.Faddeev), EIMI, Saint Petersburg, 2019
- Fourth Winter School-Conference “String Theory, Integrable Models and Representation Theory”, Center for Advanced Studies, Skoltech, Moscow, 2019

- VI International Conference “Models in Quantum Field Theory”, Saint Petersburg, 2018
- Pre-CQIS Summer School on Theoretical and Mathematical Physics, Center for Advanced Studies, Skoltech, Moscow, 2018
- Third Winter School-Conference “String Theory, Integrable Models and Representation Theory”, Center for Advanced Studies, Skoltech, Moscow, 2018
- Integrable Models in Statistical Mechanics, Limit Shapes and Combinatorics, EIMI, Saint Petersburg, 2017
- BASIS Foundation Summer school for “Modern tendencies in theoretical physics of fundamental interactions”, Moscow, 2017

TEACHING

- **Assistant Lecturer** at ITMO University Spring 2020
Atomic Physics and Quantum Mechanics
- **Assistant Lecturer** at ITMO University Spring 2020
General Physics II: Electricity and Magnetism, Optics
- **Assistant Lecturer** at ITMO University Fall 2019
Electricity and Magnetism
- **Assistant Lecturer** at ITMO University Fall 2019
General Physics I: Mechanics, Thermodynamics
- **Assistant Lecturer** at ITMO University Spring 2019
Electricity and Magnetism

EXPERIENCE

ITMO University Saint Petersburg, Russia
Assistant Lecturer, Research Project Supervisor Spring 2019-Current

- Seminars on problem solving, laboratory assignments, research projects for undergraduate students

UNICHANCE Saint Petersburg, Russia
Teacher Fall 2018-Current

- Popular lectures on mathematics and physics for pre-college students, SAT preparation workshops on mathematics and physics

Private Tutoring
Tutor Fall 2014-Spring 2020

- Higher mathematics, probability theory and statistics, general physics, mathematics and physics for pre-college students(SAT’s and olympiads)

SKILLS

- **Languages:** Russian(native), English(fluent), German(intermediate), French(intermediate)
- **Programming:** Wolfram Mathematica, Matlab, Maple, FORM, C++
- **Interests:** Philosophy(Husserl, Kant), Programming, Photography