

Curriculum Vitae

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Full name Irina Bobrova
Place of birth Krasnogorsk, Russia
Date of birth 15 SEP 1994
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Education

2023 [Université de Reims Champagne-Ardenne, Laboratoire de Mathématiques](#), PhD
2019 – 2023 [HSE University, Faculty of Mathematics](#), Differential Equations and Dynamical Systems Program, PhD
2017 – 2019 [HSE University, Faculty of Mathematics](#), Mathematics and Mathematical Physics Program, Master of Science (with honors)
2015 – 2017 [Moscow Region State University, Faculty of Physics and Mathematics](#), Physics Program, Bachelor of Science (with honors)
2015 – 2017 [Moscow Region State University, Faculty of Physics and Mathematics](#), Pedagogical Education Program (Mathematics), Bachelor of Science (with honors)
2012 – 2015 [Moscow Region State University, Faculty of Physics and Mathematics](#), Pedagogical Education Program (Mathematics and Computer Science)

PhD's degree

2023 *Non-Abelian Painlevé equations*
Advisors [Valentin Ovsienko](#), [Vladimir Rubtsov](#), and [Vladimir Sokolov](#)
2023 *Non-Abelian generalizations of the Painlevé IV equation*
Advisors [Vladimir Poberezhny](#), [Vladimir Rubtsov](#), and [Vladimir Sokolov](#)

Master's degree

2019 *Painlevé II Hierarchy: Poisson Structures, Bäcklund Transformations, and Sigma Coordinates*
Advisors [Vladimir Poberezhny](#) and [Vladimir Rubtsov](#)

Bachelor's degree

2017 *Analysis of Thermodynamic Criterion of Materials Strength*
Advisor [Anatoly Bugrimov](#)
2017 *Methodical Features of Stochastics Elements Study in Math Course of Basic School*
Advisor [Maria Rassudovskaya](#)

Scientific interests Analytical Theory of Differential Equations, Painlevé Equations, Soliton Equations, Integrable Systems and their Non-Commutative Generalizations, Poisson Structures

Languages Russian (native), English (C1), French (A1), German (A2)

Employment

apr 2026 – mar 2031 [Technische Universität Berlin, Institut für Mathematik](#), Berlin, Germany, [PostDoc](#)
apr 2026 – dec 2026 [Max-Planck-Institute for Mathematics in the Sciences](#), Leipzig, Germany, [Visitor](#)
nov 2023 – mar 2026 [Max-Planck-Institute for Mathematics in the Sciences](#), Leipzig, Germany, [PostDoc](#)
mar 2023 – oct 2023 [International Laboratory of Cluster Geometry, HSE](#), Moscow, Russia, [Junior Research Fellow](#)
sep 2022 – jan 2023 [Faculty of Mathematics, HSE](#), Moscow, Russia, [Senior Lecturer](#)
mar 2021 – feb 2023 [International Laboratory of Cluster Geometry, HSE](#), Moscow, Russia, [Research Assistant](#)
sep 2020 – aug 2023 [Department of Higher Mathematics, HSE](#), Moscow, Russia, [Lecturer](#)

2019 – 2020 Faculty of Mathematics, HSE, Moscow, Russia, Course Assistant (Complex Analysis)

Visits

jul 2025 BIMSA, Beijing, China, Visitor

jan 2025 – mar 2025 Institut Mittag-Leffler, Djursholm, Sweden, Invited Researcher

dec 2022 – feb 2023 IHES, Bures-sur-Yvette, France, Invited Researcher

Memberships

2026 – now Deutsche Mathematiker-Vereinigung (DMV)

2025 – now European Women in Mathematics (EWM)

2024 – now Association of Women in Mathematical Physics (AWMP)

2024 – 2027 Young Academy of European Mathematical Society (EMYA)

2024 – now International Society of Nonlinear Mathematical Physics (is~mp)

Awards&Grants

2025 The CEP program, BIMSA

2023 PAUSE program, Université de Reims Champagne-Ardenne

2023 Research Grant, Russian Science Foundation (Project No. 23-41-00049)

«Representation Theory, Knots and (non-)Commutative Painlevé Monodromy»

2023 Surcharge for Publications, HSE

2022 – 2023 Rector's Personal Surcharge, HSE

2022 Simons Foundation, IUM

2022 Natanzon Scholarship, HSE

2022 – 2023 Young Faculty Support Program (Group of Young Academic Professionals),
Category «New Researchers», HSE

2022 – 2023 Young Russian Mathematics Award, IUM

2019 – 2020 Research Grant, Russian Foundation for Basic Research, 18-01-00461 A

«(Non)commutative Integrable Field-Theoretic Models: Algebras and Symmetry Groups and Their Representations»

2015 – 2017 Nozdrev Scholarship, MRSU

Preprints

2025 Bobrova I. *On a non-commutative sixth q -Painlevé system: from discrete system to surface theory*, Journal of Physics A: Mathematical and Theoretical (under review), [arXiv:2507.22466](https://arxiv.org/abs/2507.22466)

2024 Bobrova I. *Affine Weyl groups and non-Abelian discrete systems: an application to the d -Painlevé equations*, Journal of Mathematical Physics, Analysis and Geometry (under review), [arXiv:2403.18463](https://arxiv.org/abs/2403.18463)

Publications

2024 Bobrova I., Retakh V., Rubtsov V., Sharygin G. *Non-Abelian discrete Toda chains and related lattices*, Physica D: Nonlinear Phenomena, 464: 134200, [arXiv:2311.11124](https://arxiv.org/abs/2311.11124)

2023 Bobrova I. *Different linearizations of non-abelian second Painlevé systems and related monodromy surfaces*, Journal of Mathematical Physics, 64(10): 101702, [arXiv:2302.10694](https://arxiv.org/abs/2302.10694)

2023 Bobrova I., Sokolov V. *On classification of non-abelian Painlevé type systems*, Journal of Geometry and Physics, 191: 104885, [arXiv:2303.10347](https://arxiv.org/abs/2303.10347)

2023 Bobrova I., Sokolov V. *Classification of Hamiltonian non-abelian Painlevé type systems*, Journal of Nonlinear Mathematical Physics, 30: 646–662, [arXiv:2209.00258](https://arxiv.org/abs/2209.00258)

2023 Bobrova I., Sokolov V. *Non-abelian Painlevé systems with generalized Okamoto integral*, in *The Diverse World of PDEs: Algebraic and Cohomological Aspects*, volume 789 of *Contemporary Mathematics*, pages 41–76, American Mathematical Society, [arXiv:2206.10580](https://arxiv.org/abs/2206.10580)

2022 Bobrova I., Retakh V., Rubtsov V., Sharygin G. *A fully noncommutative analog of the Painlevé IV equation and a structure of its solutions*, Journal of Physics A: Mathematical and Theoretical, 55(47): 475205, [arXiv:2205.05107](https://arxiv.org/abs/2205.05107)

- 2022 Bobrova I., Sokolov V. *On matrix Painlevé-4 equations*, Nonlinearity, 35(12): 6528(2023), arXiv:2107.11680, arXiv:2110.12159
- 2022 Bobrova I. *On symmetries of the non-stationary $P_{II}^{(n)}$ hierarchy and their applications*, Theor. and Math. Physics, 213:1, 65–94, arXiv:2010.10617
- 2021 Bobrova I., Mazzocco M. *The Sigma Form for the PII Hierarchy*, Journal of Geometry and Physics, 166: 104271, arXiv:2012.11010

Talks (invited)

- 2026 *On a non-commutative q -PVI system*, Zoom, IUM, Deformation Quantisation and Quantum Groups Seminar, March 31 (invited)
- 2025 *What do we know about non-commutative Painlevé equations?*, Berlin, Humboldt University, Quantum Field and String Theory Group, October 15 (invited)
- 2025 *How to detect non-commutative Painlevé property?*, Leeds, University of Leeds, Recent Advances in Classical and Quantum Integrability, June 04 (invited, plenary)
- 2025 *Around non-commutative analogs for the Painlevé monodromy manifolds*, Geneva, Université de Genève, Séminaire Groupes de Lie et espaces de modules, April 22 (invited)
- 2025 *Around non-commutative analogs of the Painlevé monodromy manifolds*, Barcelona, Painlevé equations, higher Teichmüller theory and quantization, March 18-21 (invited)
- 2025 *Painlevé equations and double quasi-Poisson brackets*, Djursholm, Mittag-Leffler Institute, Cohomological Aspects of QFT, February 14 (invited)
- 2025 *Around non-commutative analogs for the Painlevé monodromy manifolds*, Dijon, Institut de Mathématiques de Bourgogne, Séminaire Mathématique-Physique, February 04 (invited)
- 2025 *Painlevé monodromy manifolds and related structures: towards non-commutative setting*, Barcelona, BCN-Face(t)s in Symplectic Geometry, January 28-31 (invited)
- 2024 *Around non-commutative discrete systems*, Zoom, AMS Special Session on Non-commutative birational geometry, cluster structures and canonical bases, October 26-27 (invited)
- 2024 *Affine Weyl groups and non-abelian discrete systems*, Beijing, RTISRT-2024, July 10 (invited)
- 2024 *Affine Weyl groups and non-abelian discrete systems*, Lille, Integrable systems and automorphic forms, May 14 (invited)
- 2024 *Non-Abelian ODEs and OΔEs*, Zoom, Noncommutative Integrable Systems Workshop, March 05 and March 07 (invited)
- 2024 *Towards non-Abelian recurrences*, Zoom, IUM, Deformation Quantisation and Quantum Groups Seminar, February 13 (invited)
- 2023 *Towards non-Abelian Painlevé equations*, Lyon, Institut Camille Jordan, Séminaire Physique Mathématique ICJ, October 27 (invited)
- 2023 *Non-Abelian Painlevé equations*, Zoom, Web-seminar on Painlevé Equations and related topics, May 17 (invited)
- 2023 *Different approaches for constructing non-abelian Painlevé equations*, Zoom, BIMSA Integrable Systems Seminar, February 24 (invited)
- 2023 *On non-Abelian monodromy surfaces of the Painlevé equations*, Rennes, Institut de recherche mathématique de Rennes, Géométrie analytique Séminaire, February 16 (invited)
- 2023 *On some classes of non-abelian Painlevé equations*, Zoom, Hamiltonian Systems Seminar, February 14 (invited)
- 2022 *Non-abelian generalizations of the Painlevé-4 equation*, Angers, University of Angers, LAREMA seminar, December 5 (invited)
- 2023 *On a classification of non-Abelian Painlevé equations*, Zoom, IUM, Cohomology and PDE Seminar, November 22 (invited)
- 2021 *Symmetries of the second Painlevé equation*, Zoom, Landau Institute for Theoretical Physics, October 13 (invited)
- 2021 *On matrix Painlevé IV equations*, Chernogolovka, Landau Institute for Theoretical Physics, June 4 (invited)

2021 *On some structures of the second Painlevé equation and related hierarchies*, Zoom, Junior Global Poisson Workshop, May 4 (invited)

Talks (regular)

- 2024 *Towards non-commutative discrete Painlevé systems*, Göttingen, *Developments in Modern Mathematics*, September 02
- 2024 *Affine Weyl groups and non-abelian discrete systems*, Bad Ems, *OCNMP-2024*, June 27
- 2024 *Painlevé equations and cluster algebras*, Leipzig, *Symplectic geometry of representation and quiver varieties*, February 01
- 2023 *Non-Abelian Painlevé equations and related monodromy surfaces*, Bruxelles, *Forum des jeunes mathématicien-nes. Analyse. Géométrie. Application.*, November 23
- 2023 *Non-Abelian Painlevé equations and related monodromy surfaces*, MPI for MiS, Leipzig, *Geometry seminar*, November 21
- 2023 *On the classification and study of non-Abelian Painlevé equations*, Reims, Université de Reims Champagne-Ardenne, *Laboratoire de Mathématiques*, July 11
- 2023 *Non-Abelian Painlevé equations*, Zoom, *Laboratory of Cluster Geometry*, HSE, May 18
- 2022 *Non-abelian Painlevé systems with generalized Okamoto integral*, Ufa, *Ufa Autumn Mathematical School-2022*, September 28
- 2022 *Non-commutative generalisations of the fourth Painlevé equation*, Sochi, *Integrable systems and their applications*, September 15
- 2021 *Matrix Painlevé equations*, Moscow, *IUM & MSU*, December 13 – 17
- 2021 *On matrix Painlevé-4*, Moscow, *Laboratory of Mathematical Physics and Representation Theory*, HSE, November 17
- 2021 *On the Painlevé equations and their non-Abelian generalisations*, Zoom, *Laboratory of Cluster Geometry*, HSE, October 28
- 2021 *Symmetries of the second Painlevé equation*, Zoom, *Steklov Mathematical Institute*, September 14, 21, 28
- 2021 *On matrix Painlevé-4 equations*, Sochi, *Classical and Quantum Integrable Systems Workshop*, July 29
- 2021 *Stokes Phenomena*, Zoom, *Spring Student School on Mathematics and Physics*, May 6-7
- 2020 *On the Motion of a Solid Body in a Fluid*, Zoom, *Seminar on the Analytic Theory of Differential Equations*, November 15
- 2020 *The Non-Stationary $P_{II}^{(n)}$ Hierarchy: Bäcklund Transformations, Rational Solutions, and Yablonskii-Vorobiev Polynomials*, Zoom, *Differential equations and related topics Conference*, June 19
- 2020 *On the Second Painlevé Equation and its Higher Analogues*, Zoom, *Geometry of Differential Equations Seminar*, June 8
- 2020 *The Hamiltonian Action of the Lie Group, the Momentum Map, and the Hamiltonian Reduction*, Zoom, *Spring Student School on Mathematics and Physics*, May 1
- 2020 *The Momentum Map*, Zoom, *Steklov Mathematical Institute*, April 28
- 2020 *Isomonodromic Deformations*, Moscow, *HSE*, March 10
- 2020 *From the Stationary KdV Hierarchy to the Second Painlevé Hierarchy*, Moscow, *Steklov Mathematical Institute*, February 25
- 2019 *Riemann - Hilbert Problem and Schlesinger Isomonodromic Deformation*, Moscow, *Steklov Mathematical Institute*, November 26
- 2019 *Closed Toda Lattice*, Dubna, *Spring Student School on Mathematics and Physics*, May 6
- 2019 *On the Inheritance of the Korteweg-de Vries Equation Structure of Painlevé II*, Moscow, *Steklov Mathematical Institute*, April 24

Conference Participation

- 2025 *Algebraic Foliations: Analytic and Birational Viewpoint*, Oberwolfach, Germany, December 7-12
- 2025 *Around associators: from integrable systems to number theory*, Les Diablerets, Switzerland, September 14-19
- 2025 *Memory of Yuri Manin*, Bonn, Germany, August 11-15
- 2025 *Recent Advances in Classical and Quantum Integrability*, with talk, Leeds, UK, June 02-06
- 2025 *Quantum Painlevé, higher Teichmüller theory and DAHA*, with talk, Barcelona, Spain, March 18-21
- 2025 *BCN-Face(t)s in Symplectic Geometry*, with talk, Barcelona, Spain, Jan 28-31
- 2025 *Cohomological aspects of Quantum Field Theory*, with talk, Djursholm, Sweden, Jan 14 - Mar 08
- 2024 *AMS Special Session on Non-commutative birational geometry, cluster structures and canonical bases*, with talk, Zoom, October 26-27
- 2024 *Developments in Modern Mathematics*, with talk, Göttingen, Germany, September 02
- 2024 *9th European Congress of Mathematics (9ECM)*, Seville, Spain, July 15-19
- 2024 *Representation Theory, Integrable Systems and Related Topics International*, with talk, Beijing, China, July 08-12
- 2024 *Beijing Summer Workshop in Mathematics and Mathematical Physics*, Beijing, China, July 01-08
- 2024 *Open Communications in Nonlinear Mathematical Physics*, with talk, Bad Ems, Germany, June 23-29
- 2024 *Integrable systems and automorphic forms*, with talk, Lille, France, May 13-16
- 2024 *Noncommutative Integrable Systems Workshop*, with talk 1 and talk 2, Zoom
- 2024 *Symplectic geometry of representation and quiver varieties*, with talk, Leipzig
- 2023 *Forum des jeunes mathématicien-nes. Analyse. Géométrie. Application*, with talk, Bruxelles
- 2023 *Atelier on Higher Structures in Differential Geometry*, Lyon, Institut Camille Jordan
- 2022 *Ufa Autumn Mathematical School-2022*, with talk, Ufa
- 2022 *Integrable systems and their applications*, with talk, Sochi
- 2021 *Diffieties, Cohomological Physics, and Other Animals (Alexandre Vinogradov Memorial Conference)*, with talk, Moscow
- 2021 *Third International Conference on Integrable Systems & Nonlinear Dynamics*, Yaroslavl
- 2021 *Classical and Quantum Integrable Systems*, with talk, Sochi
- 2021 *Junior Global Poisson Workshop*, with talk, Zoom
- 2021 *Analytic Theory of Differential and Difference Equations*, Zoom
- 2020 *Polivanov-90*, Zoom
- 2020 *Differential equations and related topics*, Zoom
- 2019 *Classical and Quantum Integrable Systems*, Saint-Petersburg

**Organization
of events**

- 2025 *LANGE NACHT DER WISSENSCHAFTEN 2025*, Leipzig, Germany, Jun 20

Schools

- 2022 *EIMI Lie algebras summer school ALGEBULER*, Saint-Petersburg
- 2021 *Spring Student School on Mathematics and Physics*, Zoom
- 2021 *String Theory, Integrable Models and Representation Theory*, Zoom
- 2020 *Spring Student School on Mathematics and Physics*, Zoom
- 2020 *String Theory, Integrable Models and Representation Theory*, Moscow
- 2019 *Visions of Algebraic Groups*, Saint-Petersburg
- 2019 *Spring Student School on Mathematics and Physics*, Moscow
- 2016 *String Theory, Integrable Models and Representation Theory*, Moscow
- 2015 *Algebra and Geometry*, Yaroslavl

2015 *Math Winter School*, Voronovo

Additional Skills Wolfram Mathematica, Python, Java, SQL, Data Modeling