

Curriculum Vitae

Positions

- 2025–present **Researcher**, Chebyshev Laboratory at St. Petersburg University
- 2023–2024 **Postdoctoral researcher**, Leonhard Euler International Mathematical Institute, St. Petersburg
- 2022–2023 **Research assistant**, Chebyshev Laboratory at St. Petersburg University
- 2019–2022 **Junior researcher**, St. Petersburg Department of Steklov Mathematical Institute of The Russian Academy of Sciences, St. Petersburg
- 2017–2020 **Junior researcher**, Department of Mathematics and Mechanics, St. Petersburg University

Education

- 2017–2021 **Ph.D. in Mathematics and Physics**, St. Petersburg Department of Steklov Mathematical Institute of The Russian Academy of Sciences
- Advisors: Nikolai Vavilov & Victor Petrov *Overgroups of The Elementary Subgroups of Reductive Groups in Irreducible Representations*
- 2015–2017 **M.Sc. in Mathematics**, St. Petersburg University, Diploma Summa Cum Laude
- Advisor: Nikolai Vavilov *Overgroups of Exterior Powers of an Elementary Group*
- 2011–2015 **B.Sc. in Mathematics**, St. Petersburg University, Diploma Summa Cum Laude
- Advisor: Nikolai Vavilov *Overgroups of Exterior Square of an Elementary Group*

Research Interests

- Algebraic groups: structure theory over rings (Chevalley groups, Steinberg groups, and their relatives; representation theory of such groups)
- Invariant theory: geometry and structure problems defining algebraic groups via invariants; algebro-geometric [Grothendieck] aspects
- Non-associative algebras: Jordan algebras and superalgebras, Poisson algebras and superalgebras and their generalizations, deformations and degenerations

Funding and research groups

- RSF: [Russia] Russian Scientific Foundation
- RFBR: [Russia] Russian Foundation for Basic Research
- 2023–2025 **Leader**, *Groups and non-associative algebras*, RSF No 22-71-10001, 133.000 US\$
Collective research grant (participants: I. Kaygorodov, A. Generalov, A. Petukhov, I. Karimjanov, V. Lopatkin, K. Vyatkina, M. Venchakov), [Link](#)
- 2023–2024 **Participant**, *Non-associative algebraic structures*, RSF No 22-11-00081, head: Ilya Gorshkov, [Link](#)
- 2019–2022 **Co-coordinator**, *Decomposition of unipotents in polyvector representations and applications*, RFBR, individual grant for doctoral students No 19-31-90072, 17.000 US\$, head: Victor Petrov, [Link \(in Russian\)](#)
- 2017–2019 **Participant**, *Split reductive groups over rings and their relatives*, RSF No 17-11-01261, head: Alexei Stepanov, [Link](#)

Awards and scholarships

- 2023 **The “School” competition of Theoretical Physics and Mathematics Advancement Foundation “BASIS”**, junior postdoctoral award, [Link \(in Russian\)](#)

- 2022 **Scholarship of the program “Native towns”, Gazprom Neft PJCS, junior postdoctoral award, [Link \(in Russian\)](#)**
- 2021 **Fellowship of the Leonhard Euler International Mathematical Institute, doctoral student award**
- 2018 **Rokhlin Stipends for Young Mathematicians, graduate student award, [Link \(in Russian\)](#)**
- 2013 **Scholarship of Chebyshev Laboratory at St. Petersburg University, undergraduate student award**
- 1999–2011 Multiple winner and prize winner in chess

Visits

- 2024 **Short-term visit of Peking University via Sino–Russian Mathematics Center, September 1 – 22, Beijing, China**
- 2024 **Mathematics Summer School “Algebraic Transformation Groups III”, August 5 – 10, Pyalovo, Moscow**
lecturer of the mini-course “Why do we need geometry of schemes?”
- 2015 **Scuola Matematica Interuniversitaria (Mathematics Summer School), August, Perugia, Italy**

	Jürgen Appell &	<i>Analisi Funzionale</i>
Completed courses:	Martin Văth	
	Nikolai Vavilov	<i>Algebra</i>
- 2015 **Short-term visit of Bielefeld University via Leonhard Euler DAAD program, April, Bielefeld, Germany, research advisor: Anthony Bak**

Conference Talks

- 2024 **Clear about the benefits of schemes for algebraic groups, Lie algebras, algebraic groups, and invariant theory, August 19–24, Samara University, Samara, Russia**
- 2023 **Invariants of polyvector representations of $GL_n(R)$, Lie algebras, algebraic groups, and invariant theory, January 28 – February 2, National Research University Higher School of Economics and Steklov Mathematical Institute, Moscow**
- 2022 **Plücker polynomials and their applications (poster), Random Point Processes, November 1–5, Suzdal, Russia**
- 2020 **Variation of the inverse decomposition of unipotents for exterior square, Lie algebras, algebraic groups, and invariant theory, January 27 – February 1, Moscow State University and Steklov Mathematical Institute, Moscow**
- 2018 **Overgroups of exterior powers of elementary groups (poster), Modern Algebraic Geometry, July 21–25, Silkroad Mathematics Center, Beijing**
- 2017 **Overgroups of exterior powers of an elementary group, St. Petersburg Algebraic D. K. Faddeev Seminar, May 8, St. Petersburg Department of Steklov Mathematical Institute**
 – **Overgroups of exterior squares of an elementary group, Lie algebras, algebraic groups, and invariant theory, January 31 — February 5, Moscow State University and Independent University of Moscow**

Teaching Experience

- MM SPbU: [Russia] Mathematics and Mechanics Department, St. Petersburg University
 MCS SPbU: [Russia] Mathematics and Computer Science Department, St. Petersburg University
- 2024–present **Algebraic groups over rings, MCS SPbU, organizer of a seminar for PhD students, [Link \(in Russian\)](#)**
- 2024–present **Lie algebras, MCS SPbU, organizer of a seminar for undergraduate students, [Link \(in Russian\)](#)**
- 2023–present **Abstract algebra, undergraduate course at MCS SPbU, 3 full semesters**

2014 and 2016, **Abstract algebra**, undergraduate course at MM SPbU
Fall

Teaching Experience: Mentoring and Service

MM SPbU: [Russia] Mathematics and Mechanics Department, St. Petersburg University

2015–2017 **Headman of group (25–35 master students)**, MM SPbU

2014 **Coordinator of group (15–25 students)**, MM SPbU

2011–2015 **Headman of group (50+ bachelor students)**, MM SPbU

Personal data

Date and place of birth: March 07, 1994, Pechora, Russia

Languages: Russian (Native), English, German

I have good skills in programming in Maple, C++ and \LaTeX .

Other scientific activities

since 2024 Referee for Theoretical Physics and Mathematics Advancement Foundation “BASIS”, Russia

since 2023 Referee for Student Research Paper Competition, HSE University, Moscow

Publications and Preprints

- **Subgroups of general linear groups, containing the exterior square of the elementary subgroup**, work in progress with A. Stepanov
- **The algebraic and geometric classification of Jordan superalgebras**, work in progress with K. Abdurasulov and A. Saydaliyev
- **The algebraic and geometric classification of right alternative and semi-alternative algebras**, work in progress with H. Abdelwahab and I. Kaygorodov
- 2024 **Overgroups of elementary groups in polyvector representations**
J. Math. Sci., vol. 531, pp. 101–116.
- **Overgroups of exterior powers of an elementary group. Normalizers**, with I. Nekrasov
Doc. Math., 29(5), pp. 1243–1268, DOI: [10.4171/DM/956](https://doi.org/10.4171/DM/956), [Arxiv](#).
- 2022 **The reverse decomposition of unipotents in polyvector representation**
J. Math. Sci., vol. 513, pp. 120–138
- **Overgroups of exterior powers of an elementary group. Levels**, with I. Nekrasov
Linear Multilinear Algebr., vol. 72, no. 4, pp. 563–584, DOI: [10.1080/03081087.2022.2160422](https://doi.org/10.1080/03081087.2022.2160422), [Arxiv](#).
- 2021 **The reverse decomposition of unipotents for bivectors**
Commun. Algebr., 49(10):4546–4556, DOI: [10.1080/00927872.2021.1924183](https://doi.org/10.1080/00927872.2021.1924183), [Arxiv](#).
- **Subgroups of Chevalley Groups Over Rings**, with A. Stepanov
J. Math. Sci. (N.Y.), 252(6):829–840, DOI: [10.1007/s10958-021-05203-x](https://doi.org/10.1007/s10958-021-05203-x).
- 2019 **Explicit Equations for Exterior Square of the General Linear Group**, with I. Nekrasov
J. Math. Sci. (N.Y.), 243(4):583–594, DOI: [10.1007/s10958-019-04559-5](https://doi.org/10.1007/s10958-019-04559-5), [Arxiv](#).