

Daniil Rudenko

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POSITIONS

- Assistant Professor, The University of Chicago, 2019–present.
- L. E. Dickson instructor, The University of Chicago, 2016–2019.

EDUCATION

- PhD, *Higher School of Economics*, Department of Mathematics, Moscow, Russia, 2013–2016.
- MA, *University of Cambridge*, Department of Mathematics, Cambridge, UK, 2012–2013.
- BS, *Saint Petersburg State University*, Department of Mathematics, Saint Petersburg, Russia, 2007–2012.
- *Mathematical school 239*, Saint Petersburg, Russia, 2003–2007.

RESEARCH INTERESTS

- Polylogarithms, Goncharov Program, Mixed Tate motives, Zagier conjecture.
- Volumes of Non-Euclidean polytopes.
- Cluster algebras and scattering amplitudes.

PUBLICATIONS

- *Rational Elliptic Surfaces and the Trigonometry of Tetrahedra*, *Inventiones mathematicae*, (2021).
- *The Strong Suslin Reciprocity Law*, *Compositio Mathematica*, 157(4), pp. 649-676 (2021).
- *On the strong Suslin reciprocity law*, *Functional Analysis and Its Applications*, 50(1), pp. 79-84 (2016).
- *On equidissection of balanced polygons*, *Journal of Mathematical Sciences* 190 (3), pp. 486-495 (2013).

PREPRINTS

- *On the Goncharov depth conjecture and a formula for volumes of orthoschemes*, arXiv 2012.05599.
- *Motivic correlators, cluster varieties and Zagier's conjecture on zeta(F4)* (Joint with A. Goncharov), arXiv: 1803.08585.
- *On the functional equations for polylogarithms in one variable*, arXiv: 1511.09110.
- *Arithmetic of 3-valent graphs and equidissections of flat surfaces*, arXiv: 1411.0285.

PRIZES AND DISTINCTIONS

- *Bourbaki seminar presented by C. Dupont: Progrès récents sur la conjecture de Zagier et le programme de Goncharov* [d'après Goncharov, Rudenko, Gangl, ...], 2021.
- *Simons Foundation Scholarship*, 2014.
- *Möbius Contest*, third prize, 2013.
- *International Mathematics Competition for College Students*, first diploma, Blagoevgrad, Bulgaria, 2010.

TEACHING

- *University of Chicago REU, Apprentice program*, 07/2018, 07/2019, 07/2020, 07/2021.
- *Goncharov Program, mini-course (3 lectures)*, Summer School of Laboratory of Algebraic Geometry, 07/2021.
- *Coxeter's Forgotten Theorem, mini-course (4 lectures)*, Summer School at Dubna, 07/2021.
- *IBL calculus*, 10/2017–06/2018.
- *Young Scholars Program*, 06/2017.
- *Honors Algebra 1 & 2, Algebraic Geometry, Commutative Algebra, Linear Algebra, Analysis 1*, 10/2016–present.
- *Hilbert Third Problem and algebraic K-theory*, lecture course, 01/2014–05/2014.

INVITED SEMINARS

- *Non-Euclidean tetrahedra*, Conference of Laboratory of AG, 07/2021.
- *Goncharov depth conjecture*, Oberseminar, LMU Munich, Munich, 06/2021.
- *Goncharov depth conjecture*, Seminar of Laboratory of Algebraic Geometry, HSE, 03/2021.
- *Volumes of orthoschemes*, Quantum Seminar, University of Strasbourg, Strasbourg 01/2020.
- *Scissors Congruence and Goncharov Conjectures*, AG Seminar, SPbSU, Saint Petersburg 02/2020
- *Non-Euclidean tetrahedra and rational elliptic surface*, Colloquium, SPbSU, Saint Petersburg 02/2020.
- *Non-Euclidean tetrahedra and rational elliptic surface*, Shafarevich Seminar, Steklov Inst., Moscow, 09/2019.
- *Non-Euclidean tetrahedra and rational elliptic surface*, Top. Seminar, MSU, Moscow, 09/2019.
- *Non-Euclidean tetrahedra and rational elliptic surface*, Rokhlin100 Conference, Saint Petersburg, 08/2019.
- *Non-Euclidean tetrahedra and rational elliptic surface*, Seminar of Lab. of Algebraic Geometry, HSE, 08/2019.
- *Non-Euclidean tetrahedra and rational elliptic surface*, Top. Seminar, University of Berkley, 05/2019.
- *Non-Euclidean tetrahedra and rational elliptic surface*, AG Seminar, University of Berkley, 05/2019.
- *Non-Euclidean tetrahedra and rational elliptic surface*, AG Seminar, University of Chicago, 03/2019.
- *Classical trigonometry of non-Euclidean tetrahedra*, AG Seminar, Courant Institute, 01/2019.
- *Classical trigonometry of non-Euclidean tetrahedra*, NT Seminar, John Hopkins University, 11/2018.
- *Non-Euclidean tetrahedra and rational elliptic surface*, NT Seminar, Northwestern University, 10/2018.
- *Cluster algebras and depth conjecture for polylogarithms*, Periods Seminar, University of Oxford, 09/2018.
- *Cluster algebras and depth conjecture for polylogarithms*, Top. Seminar, University of California, 05/2018.
- *Cluster algebras and depth conjecture for polylogarithms*, Cluster Algebras seminar, University of Notre Dame, 04/2018.
- *Depth conjecture for polylogarithms*, Geometric Langlands seminar, University of Chicago (3 talks), 04/2018.
- *Polylogarithms, cluster algebras and Zagier Conjecture*, Workshop on Periods and Regulators, HIM, 01/2018.
- *Functional equations for polylogarithms*, Geometry/Physics seminar, Northwestern University, 02/2016.
- *Functional equations for polylogarithms*, Geometric Langlands seminar, University of Chicago, 01/2016.
- *On Zagier conjecture, motivic seminar*, Chebyshev laboratory, 09/2015.
- *Scissor congruence and reciprocity laws*, Conference on algebraic structures in convex geometry, HSE, 02/2015.
- *On the Hilbert third problem*, Seminar of Laboratory of Algebraic Geometry, HSE, 12/2014.
- *Hilbert third problem and reciprocity laws*, Seminar on Combinatorics of Characteristic Classes, HSE, 11/2014.
- *On equidissection problem*, Seminar of Laboratory of Algebraic Geometry, HSE, 12/2013.
- *Equidissections of flat surfaces*, Seminar on Combinatorics of Vassiliev invariants, HSE, 04/2013.
- *Equidissections of polygons and tropical colorings*, Tropical Geometry Seminar, University of Geneva, 04/2012.