Vadym Kurylenko

Curriculum Vitae
updated on 04/09/2025

Institure of Algebra and Geometry, OvGU Magdeburg
Universitätsplatz 2, 39106 Magdeburg
✉ vadym.kurylenko@ovgu.de
🌐 sites.google.com/view/vadymkurylenko/

Personal data

Date of birth	October 1995
Nationality	Ukrainian

Education

10/2020 – 12/2024 **PhD in Geometry and Mathematical Physics**, *SISSA, Trieste*
Thesis: Local Ehrhart Theory and Gale Duality.
Supervisor: Fernando RODRIGUEZ VILLEGAS.

10/2019 – 9/2020 **Doctoral studies**, *Universität Hamburg*
Supervisor Murad ALIM.

10/2017 – 9/2019 **Master's Degree in Mathematical physics**, *Universität Hamburg*
Thesis: Gauss-Manin Lie Algebra for Non-Compact Calabi-Yau Manifolds
Final mark: 1.1/1.
Supervisor: Murad ALIM.

9/2013 – 9/2017 **Bachelor's Degree in Physics**, *V.N. Karazin Kharkiv National University*
Thesis: The Regge-Wheeler Equation in a Quasi-Spherical Neutral Black Hole Background.
Final mark: 88/100, with honours.
Supervisor: Alexei NURMAGAMBETOV.

Positions

1/2025 – 1/2028 **Postdoc**, *Otto-von-Guericke Universität Magdeburg*
Mentor: Benjamin NILL.

Publications and preprints

Preprints

2025 **Examples of IDP lattice polytopes with non-log-concave h^*-vector**, with J. Hofscheier and B. Nill, https://arxiv.org/abs/2505.18896

2024 **Thin Simplices via Modular Arithmetic**, ,
https://arxiv.org/abs/2404.03975

Publications

2022 **The algebra of derivations of quasi-modular forms from mirror symmetry**, with M. Alim and M. Vogrin, https://dx.doi.org/10.4310/PAMQ.2022.v18.n3.a6

Talks

9/2025 **Ukrainian Summer School in Combinatorics**, *Freiberg*, (contributed)
Thin Lattice Simplices

9/2025 **Modern Perspectives on Geometry of Numbers**, *Cottbus*, (invited)
Thin Lattice Simplices

3/2025	**Combinatorial Synergies East**, *MPI, Leipzig*, (invited)
	Local Ehrhart Theory and Its Synergies
2/2025	**Workshop on Polytopes**, *Universität Osnabrück*, (contributed)
	Ehrhart Theory and Gale duality
7/2024	**Conference on Arithmetic Geometry and Applications**, *ICTP*, (contributed)
	Ehrhart Theory and Gale Transforms
9/2023	**Workshop "Hodge and K-theory meet combinatorics"**, *EPFL*, (contributed)
	Thin simplices via modular arithmetic.
5/2023	**Oberseminar in Magdeburg**, *OvGU Magdeburg*, (invited)
	Thin simplices via modular arithmetic.
4/2023	**Graduate Student Meeting on Applied Algebra and Combinatorics**, *KTH, Stockholm*, (contributed)
	Vanishing of local h*-polynomial for simplices.
3/2023	**SISSA Junior GMP seminar**, *SISSA*
	Hodge-Deligne Numbers of Hypersurfaces and Newton Polytopes.

Awards and Scholarships

10/2020 – 9/2024	**SISSA Fellowship**, 4-year fully funded scholarship
10/2017 – 9/2019	**DAAD Study Scholarship for Graduates of All Disciplines**, Scholarship for Master studies in Germany, c.100 recipients from Ukraine yearly.
2015 – 2017	**Scholarship of Verhovna Rada (Parliament) of Ukraine**, one nominee from the department and 500 scholarships to be awarded each year nationwide.

Visits

06/2023	**OvGU Magdeburg**, *Magdeburg*, Germany
	Visitor as a guest of Prof. Benjamin Nill

Teaching

Spring 2022	ICTP, Teaching assistant for Representation Theory
2014-2016	Coaching a school team for Regional Olympiads in Physics and Astronomy in Kharkiv

Scientific Interests

Ehrhart theory, hypergeometric functions, matroids, lattice width, mirror symmetry, enumerative geometry, modular forms.

Languages and Computer Skills

Known Languages	Russian (Native), Ukrainian (Native), English (Fluent), German (Level A2), Italian (Level A1).
Computer Skills	Sagemath, Python, Mathematica; basic familiarity with Polymake and Magma.