

Alexei Latyntsev

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Research

Algebraic geometry, geometric representation theory, enumerative invariants.

Personal

Born 15th October 1995. British and Russian citizenship.

Education

- **PhD in Mathematics**, Oxford University, Christ Church College
Supervised by Dominic Joyce 2018–2022
- **MA in Mathematics**, Cambridge University, Trinity College, Distinction
Master's thesis: \mathcal{D} -modules, supervised by Ian Grojnowski 2017–2018
- **BA in Mathematics**, Cambridge University, Trinity College, First Class 2014–2017

Employment

- **Postdoc**, Centre for Quantum Mathematics, SDU 2022–2025

Awards & Grants

- EPSRC scholarship 2018–2022
- Senior Scholar, Trinity College 2016, 2017
- Junior Scholar, Trinity College 2015
- Mathematics Essay Prize, Trinity College 2015, 2016

Papers

- Aranha, D., Khan, A.A., Latyntsev, A., Park, H. and Ravi, Charanya, 2024, The stacky concentration theorem 2024
- Latyntsev, A., 2023. Factorisation quantum groups. arXiv:2312.07274 2023
- Aranha, D., Khan, A.A., Latyntsev, A., Park, H. and Ravi, Charanya, 2022. Virtual localization revisited. arXiv preprint arXiv:2207.01652. 2022
- Latyntsev, A., 2021. Cohomological Hall algebras and vertex algebras. arXiv:2110.14356 2021

To appear imminently:

- Latyntsev, A. Virtual Euler classes for Artin stacks

- Jindal, S., Kaubrys, S., Latyntsev, A. Vertex quantum groups for deformed CY3 completions and the Drinfeld coproduct on Yangians
- Latyntsev, A., de Hory, S. Factorisation bosonisation.
- Latyntsev, A., de Hory, S. Orthosymplectic instantons and cohomological Hall algebras.

Teaching

- Lecturer for the course *Differential Equations*, SDU 2024
- Lecturer for the course *W Algebras*, Centre for Quantum Mathematics, SDU 2023
- Teaching Assistant and Tutor, Oxford University 2018–2022
Courses: *Algebraic topology*, *Algebraic curves*, *Set theory*, *Category theory*, *Conformal field theory*, *Galois theory*, *Algebraic geometry*, *Representation theory*, *Analysis I*
- Teacher in Mattekollo Summer School *Spectral Graph Theory* and *Percolation and Phase Change Phenomena* 2024
- Counselor, PROMYS program 2016–2018

Community

- Organizer, Higher Algebra Seminar 2023
- Founder and Co-Organizer, Oxford Physics and Geometry Seminar 2020–2022
- Organizer, Oxford Junior Geometry Seminar 2019–2021
- Organizer, Coulomb Branches Reading Group 2019–2020
- Co-Organizer, various reading groups on advanced topics in mathematics 2018–2019

Invited Research Talks and Research Visits

- Peking University (+visit) 2024
- Perimeter Institute, Mathematical Physics seminar (+visit) 2024
- Edinburgh University Algebra Seminar (+visit) 2024
- Edinburgh University Physics Seminar 2024
- Imperial College Geometry Seminar 2024
- Columbia (visit) 2024
- 8th KTGU Representation Theory conference, Kyoto University 2023
- Perimeter Institute, Mathematical Physics seminar 2022
- KSU, M theory seminar 2022
- Online seminar on representation theory of finite-dimensional algebras 2022
- Oxford, Geometry seminar 2021
- Edinburgh, Hodge seminar 2021

- Oxford, Junior algebra seminar 2021
- Imperial, CALF seminar 2021
- IHÉS, Adeel Khan’s seminar 2021
- Oxford, Frances Kirwan’s seminar 2021

Other Talks

- Various 2022-
- Deligne cohomology 2021
- BFN and monopole operators (two talks) 2021
- The WKB approximation and Fock-Goncharov coordinates 2021
- Opers and quantisation of Hitchin’s system 2021
- BFN Springer theory 2020
- The projective line in geometry and arithmetic 2020
- Loop spaces and connections 2020
- Deformation quantisation (two talks) 2019
- Stacks and the moduli of elliptic curves 2019
- Witten’s Morse theory 2019
- Conformal field theory (two talks) 2019
- Shimura curves 2019
- Isospectral manifolds and Sunada’s theorem 2018
- Representation theory in chemistry 2018
- Complex multiplication (two talks) 2018
- Etalé cohomology (two talks) 2018
- Galois groups and fundamental groups (three talks) 2017
- The Klein quartic 2017