

Arkadij Bojko

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orcid.org/0000-0003-1530-2418 : ORCID

preferred pronouns - he, him, his

LANGUAGES

- **Czech, Russian:** native
- **English:** TOEFL 119/120
- **German:** ÖSD Zertifikat C2

EDUCATION

University of Oxford

DPhil in Mathematics

2018–2021

- Thesis: *Wall-crossing and orientations for invariants counting coherent sheaves on CY fourfolds*
- supervised by Dominic Joyce

University of Vienna

M.Sc. in Mathematics

2017–2018

- Thesis: *Stability conditions on quivers and semistable noncommutative curve counting*
- supervised by Ludmil Katzarkov and George Dimitrov

University of Vienna

M.Sc. in Physics

2016–2018

- Thesis: *Geometry of Twisted D-branes in Group Manifolds*
- supervised by Stefan Fredenhagen

University of Vienna

B.Sc. in Physics

2013–2016

- Thesis: *Lovelock Theory*
- supervised by Piotr Chrusciel

EMPLOYMENT

- **Academia Sinica** Institute Research Scholar (5 years) since 2023
- **ETH Zürich** Postdoctoral researcher, mentored by Rahul Pandharipande 2021–2023

REFERENCES

- [1] Arkadij Bojko, Woonam Lim, and Miguel Moreira. Virasoro constraints for moduli of sheaves and vertex algebras. *Invent. Math.*, 2024. published online first.
- [2] Arkadij Bojko. Wall-crossing for stable pairs on Calabi–Yau fourfolds. in preparation.
- [3] Arkadij Bojko. Wall-crossing for Calabi–Yau fourfolds and applications. in preparation.
- [4] Arkadij Bojko. Application of Lagrange inversion to wall-crossing for Quot schemes on surfaces. *Port. Math.*, 81(1-2):97–106, 2024.

- [5] Arkadij Bojko and Jiahui Huang. Equivariant Segre and Verlinde invariants for Quot schemes. arXiv preprint, passed the quick opinions stage in Moduli.
- [6] Arkadij Bojko. Universal Virasoro constraints for quivers with relations. arXiv preprint, submitted to a journal.
- [7] Arkadij Bojko. Wall-crossing for zero-dimensional sheaves and Hilbert schemes of points on Calabi–Yau 4-folds. arXiv preprint, in revision for Adv. Math.
- [8] Arkadij Bojko. Wall-crossing for punctual Quot-schemes. arXiv preprint, submitted to a journal.
- [9] Arkadij Bojko. Orientations for DT invariants on quasi-projective Calabi-Yau 4-folds. *Adv. Math.*, 388:Paper No. 107859, 59, 2021.
- [10] Arkadij Bojko and George Dimitrov. Non-commutative counting and stability. arXiv preprint, submitted to a journal.

DISTINCTIONS

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|---|-----------|
| • Institute Research Scholarship at Academia Sinica | 2023-2028 |
| • Commendation for my PhD thesis from Merton College | 2021 |
| • Commendation for my PhD thesis from the Division of Mathematical, Physical and Life Sciences Graduate School Office | 2021 |
| • Clarendon Scholarship at the University of Oxford | 2018–2021 |
| • University of Vienna, Department of Physics Dean’s list (Master’s program) | 2016–2018 |
| • Performance scholarship of the University of Vienna | 2013–2017 |

COOPERATION PARTNERS

- **Previous:** George Dimitrov, Woonam Lim, Miguel Morreira, Jiahui Huang
- **Current:** Emile Bouaziz, Henry Liu, Georg Oberdieck

MOST IMPORTANT TALKS

- Universal Virasoro Constraints for Quivers with Relations, University of Vienna, Special Algebraic Geometry Seminar, December 2023.
- Wall-crossing for Calabi–Yau fourfolds and applications, University of Oslo, Oslo STEW 2023, December 2023.
- Equivariant Segre and Verlinde series for Quot-schemes, Stockholm University, Algebra and geometry seminar, March 2023.
- An intuitive approach for sheaf-theoretic Virasoro constraints, Academia Sinica, Algebraic geometry seminar, February 2022.
- Wall-crossing for Calabi–Yau fourfolds and applications, University of Oxford, Simon’s Collaboration Meeting: Algebraic Geometry, Gauge Theory and the Swampland Conjectures, January 2023.
- Wall-crossing for Virasoro constraints, Utrecht University, Utrecht Geometry Center Seminar, November 2022.
- Virasoro for moduli of sheaves: the wall-crossing, Dablerets, Helvetic Algebraic Geometry Seminar, June 2022.
- Wall-crossing for Hilbert schemes of fourfolds and Quot-schemes of surfaces, Imperial College London, The London geometry and topology seminar, June 2021
- Wall-crossing for Hilbert schemes on CY 4-folds I & II, ETH, Algebraic geometry and moduli seminar, March 2021.
- Orientations for DT invariants on quasi-projective Calabi–Yau 4-folds, Nottingham, Algebraic geometry seminar, November 2020.

IMPORTANT UPCOMING TALKS

- The Hong Kong University of Science and Technology, May 2024.
- Kavli Institute for the Physics and Mathematics of the Universe, July 2024.
- Korea Institute for Advanced Study, July 2024.
- Heidelberg University, August 2024.
- The University of Edinburgh, August 2024.

TEACHING AND ORGANIZING

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| • Seminar organizer at Academia Sinica
<i>Algebraic Geometry Seminar</i> | Since 2023 |
| • Instructor at ETH Zürich
<i>Derived Algebraic Geometry</i> | Spring term 2023 |
| • Instructor at ETH Zürich
<i>Derived Algebraic Geometry</i> | Spring term 2022 |
| • Lunch-seminar organizer at ETH Zürich
<i>Scattering diagrams</i> | Winter term 2021 |
| • Tutor at the University of Oxford
<i>String Theory I (two separate classes)</i> | Hilary 2021 |
| • Tutor at the University of Oxford
<i>Infinite Groups</i> | Michaelmas 2020 |
| • Tutor for Merton College at the University of Oxford
<i>Projective Geometry</i> | Trinity 2020 |
| • Teaching assistant at the University of Oxford
<i>Algebraic Topology</i> | Michaelmas 2018 |
| • Teaching Assistant at the University of Oxford
<i>Introduction to Representation Theory</i> | Michaelmas 2018 |

SUPERVISION AND MENTORING

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|---|-----------|
| • Yifan Zhao Master's thesis: Pair-counting theories for local Calabi–Yau fourfolds | 2021–2022 |
| • Huang Jiahui Master's thesis: Equivariant Segre and Verlinde invariants for Quot schemes | 2022–2023 |