

# Arkadij Bojko

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preferred pronouns - he, him, his

## LANGUAGES

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

## EDUCATION

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### 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

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

## REFERENCES

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- [1] A. Bojko, W. Lim, and M. Moreira, *Virasoro constraints for moduli of sheaves and vertex algebras*, Invent. Math. (2024), published online first.
- [2] A. Bojko, *Wall-crossing for stable pairs on Calabi–Yau fourfolds*, 2024, in preparation.
- [3] A. Bojko, *Wall-crossing for Calabi–Yau fourfolds and applications*, 2024, in preparation.
- [4] A. Bojko, *Application of Lagrange inversion to wall-crossing for Quot schemes on surfaces*, Port. Math. **81** (2024), no. 1-2, 97–106.

- [5] A. Bojko and J. Huang, *Equivariant Segre and Verlinde invariants for Quot schemes*, 2023, arXiv preprint, passed the quick opinions stage in Moduli, <https://arxiv.org/abs/2303.14266>.
- [6] A. Bojko, *Universal Virasoro constraints for quivers with relations*, 2023, arXiv preprint, submitted to a journal, <https://arxiv.org/abs/2310.18311>.
- [7] A. Bojko, *Wall-crossing for zero-dimensional sheaves and Hilbert schemes of points on Calabi–Yau 4-folds*, 2021, arXiv preprint, in revision for Adv. Math., <https://arxiv.org/abs/2102.01056>.
- [8] A. Bojko, *Wall-crossing for punctual Quot-schemes*, 2021, arXiv preprint, submitted to a journal, <https://arxiv.org/abs/2111.11102>.
- [9] A. Bojko, *Orientations for DT invariants on quasi-projective Calabi-Yau 4-folds*, Adv. Math. **388** (2021), Paper No. 107859, 59.
- [10] A. Bojko and G. Dimitrov, *Non-commutative counting and stability*, 2019, arXiv preprint, submitted to a journal, <https://arxiv.org/abs/1911.00074>.

## 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

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

## MOST IMPORTANT TALKS

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- 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, Diablerets, 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

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

## 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