

Okke van Garderen

Postdoctoral Researcher in Mathematics

SISSA
Via Bonomea 265
34136 Trieste, Italy
✉ ovangard@sissa.it
✉ okkevangarderen.nl

Employment

- 2024–present **Assegno di ricerca**, *Scuola Internazionale Superiore di Studi Avanzati (SISSA)*.
2022–2024 **Postdoctoral researcher**, *University of Luxembourg*.
2021–2022 **Postdoctoral researcher**, *Max Planck Institut für Mathematik Bonn*.

Education

- 2017–2021 **PhD in Mathematics**, *University of Glasgow*.
Supervised by Michael Wemyss and Ben Davison
2014–2016 **Master of Science in Mathematical Physics**, *University of Amsterdam*.
2011–2014 **Bachelor of Science in Mathematics**, *University of Amsterdam*.
2011–2014 **Bachelor of Science in Physics**, *University of Amsterdam*.

Teaching Experience

As Lecturer

- 2024 **Cryptography and Number Theory**, *University of Luxembourg*.
2023 **Refresher Course in Algebra and Topology**, *University of Luxembourg*.

As Teaching Assistant

- 2024 **Algebra 2**, *University of Luxembourg*.
2023 **Complex Analysis**, *University of Luxembourg*.
2022 **Analysis 3**, *University of Luxembourg*.
2020 **Maths 2C (Real Analysis)**, *University of Glasgow*.
2020 **Maths 2A (Calculus)**, *University of Glasgow*.
2019 **Maths 2D (Topics in Linear Algebra)**, *University of Glasgow*.
2018 **Maths 2B (Linear Algebra)**, *University of Glasgow*.
2016 **Computer Algebra/LaTeX**, *University of Amsterdam*.
2015 **Introduction to Programming for Mathematicians**, *University of Amsterdam*.
2014 **Linear Algebra**, *University of Amsterdam*.

Students Supervision

- 2023 **Master Thesis: Gabrieles Theorem**, *Yacha Dams*, University of Luxembourg.
2023 **EML Project: Caustic Curves**, *Inês Paiva and Natalija Postolovska (joint with Mélanie Theillière)*, University of Luxembourg.
2022 **Bachelor Thesis: Cubic Surfaces and lines over finite fields**, *Yacha Dams (joint with Pieter Belmans)*, University of Luxembourg.

Research Areas

Enumerative Geometry, Representation Theory, Noncommutative Geometry, Deformation Theory

Publication List

Publications

1. “*Cyclic A-infinity Algebras and Calabi–Yau Structures in the Analytic Setting*”, to appear in Moduli
2. “*Central curves on noncommutative surfaces*” (with Thilo Baumann and Pieter Belmans), to appear in Transactions of the American Mathematical Society
3. “*Stability Over cDV Singularities and Other Complete Local Rings*”, Advanced Studies in Pure Mathematics 88 (2023)

Pre-prints

4. “*Categorifying Linking/Unlinking of Quivers using CoHA modules*”, arXiv:2409.05605
5. “*Vanishing and Symmetries of BPS Invariants for CDV Singularities*”, arXiv:2207.13540
6. “*Donaldson-Thomas invariants of length 2 flops*”, arXiv:2008.02591

Conference and Seminar Talks

- 2025 **Algebra, Geometry, and Mathematical Physics Seminar**, University of Amsterdam.
- 2025 **TULFS 2025**, University of Ferrara.
- 2025 **SQUARE conference**, University of Trento.
- 2024 **SISSA Algebraic Geometry seminar**, SISSA.
- 2024 **MFO-RIMS Tandem Workshop: Algebraic Geometry and Noncommutative Projective Varieties**, Oberwolfach.
- 2023 **Workshop on Moduli spaces of vector bundles and curves**, Université Cergy–Pontoise.
- 2023 **Bielefeld–Paderborn Representation Theory Seminar**, University of Paderborn.
- 2022 **Conference on Geometric and Combinatorial Methods in Homological Algebra**, University of Aarhus.
- 2022 **Enumerative Geometry Seminar**, Tsinghua University.
- 2022 **Seminar Algebraic Geometry**, University of Bonn.
- 2022 **Oberseminar**, Max-Planck Institute for Mathematics Bonn.
- 2021 **LAGOON seminar**, University of Leicester.
- 2020 **Nottingham Algebraic Geometry Seminar**, University of Nottingham.
- 2019 **Glasgow Algebra Seminar**, University of Glasgow.
- 2019 **Young Person’s COW**, University of Warwick.

Other Activities

- 2022 Organiser for the Alternative Geometry (AlGe) seminar at MPIM Bonn
- 2018–2021 Co-organiser for the Glasgow–Edinburgh Research Student (GEARS) seminar

Languages

- Native Dutch, English
- Intermediate German, French
- Basic Italian

Programming Languages

Singular, Macaulay2, MAGMA, Sage, Mathematica, C/C++, Rust, Python, Bash, elisp, HTML/CSS, Javascript