# Boaz Moerman

## PhD graduate

- Born in Nieuwegein, the Netherlands on April 21st 1998
- https://boazmoerman.github.io/
- @ boazmoerman@gmail.com

## About Me ———

In September 2025, I obtained my PhD at Utrecht University.
My research focuses on $\mathcal{M}$-points on algebraic varieties, which are special rational points generalizing integral and Campana points. I am studying the distribution of these points, by studying analogues of strong approximation and Manin's conjecture for them. Furthermore, I am also exploring the connections between $\mathcal{M}$-points and integral points on stacks, as well as studying the latter by itself.

## Employment

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|---|---|---|
| 2021 – 2025 | **PhD** | Utrecht University |

Thesis: *Generalized Campana points and toric varieties* in arithmetic geometry, with emphasis on generalisations of Campana points and toric varieties. Advisor: Dr. M. Pieropan

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| 2017 – 2021 | **Tutorial assistant** | Radboud University |

Taught and graded students in 10 courses

## Education

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|---|---|---|
| 2019 – 2021 | **Master in Mathematics, cum laude** | Radboud University |

Thesis: *Genus 2 fibrations*, Advisor: Prof. Dr. B. Moonen

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| 2017 – 2019 | **Honours program** | Radboud University |

Two year extracurricular program of 48 ECTS
First year project: wrote research proposal for planetesimal formation. Joint with J. de Kleuver, J. Nieuwveld, C. ten Dam
Second year project: greatly extended bachelor thesis (see below)

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|---|---|---|
| 2016 – 2019 | **Bachelor in Mathematics, cum laude** | Radboud University |

Thesis: *Eisenstein series and periods*, Advisor: Prof. Dr. W. Zudilin. Expanded on during my masters program and published as *L-values for conductor* $32$.

## Publications

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|---|---|
| 2025 | **M-points of bounded height on toric varieties** |

*In preparation*

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|---|---|
| 2025 | **M-points of bounded height** |

*In preparation*

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| 2024 | **Generalized Campana points and adelic approximation on toric varieties** |

*Preprint*
arXiv:2407.03048

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|---|---|
| 2022 | $L$-**values for conductor** $32$ |

*Journal of Number theory*
DOI: 10.1016/j.jnt.2021.09.013, ISSN: 0022-314X

## Research visits

| | | |
|---|---|---|
| 09/2024 | **Visit Dr. V. Mitankin** | Bulgarian Academy of Sciences |

Visit to discuss approximation properties for M-points and the associated Brauer-Manin obstruction, 9 September – 13 September

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| 02/2024 | **Workshop Campana points on toric varieties II** | University of Bristol |

Small scale meeting to discuss counting Campana points on toric varieties, 19 February – 23 February

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| 04/2019 | **Visit Dr. M. Neururer** | TU Darmstadt |

For discussing bachelor thesis (for honours program), 1 April – 5 April

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| 03/2019 | **Visit Dr. F. Brunault (and R. Pengo)** | ENS Lyon |

For discussing bachelor thesis (for honours program), 21 March – 27 March

## Research talks given

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| 09/2025 | **MI talk** | Utrecht University |

*Counting special points of bounded height*

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| 06/2025 | **Journées Arithmétiques** | Université du Luxembourg, Esch-sur-Alzette, Luxembourg |

*M-points of bounded height*

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| 04/2025 | **LENT seminar** | Utrecht University |

*M-points of bounded height*

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|---|---|---|
| 02/2025 | **Bath Arithmetic Geometry Seminar** | University of Bath, Bath, England |

*Generalized Campana points and adelic approximation*

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| 11/2024 | **Oberseminar Diophantische Geometrie (online)** | Georg-August Universitat Göttingen, Germany |

*M-points and adelic approximation on toric varieties*

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|---|---|---|
| 10/2024 | **Intercity number theory seminar** | Leiden University, Leiden, the Netherlands |

*M-points and adelic approximation on toric varieties*

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| 09/2024 | **ICMS seminar** | Bulgarian Academy of Sciences, Sofia, Bulgaria |
| | *Generalized integral points and strong approximation* | |
| 07/2024 | **The Mordell conjecture 100 years later** | MIT, Cambridge, United States |
| | *Generalized Campana points and adelic approximation* | |
| 04/2024 | **Campana points seminar** | Utrecht University |
| | *M-approximation on toric varieties* | |
| 04/2024 | **Campana points seminar** | Utrecht University |
| | *M-points* | |
| 11/2023 | **Junior AG day** | Utrecht University |
| | *Generalized integral points and strong approximation* | |
| 08/2023 | **GQT school and colloquium** | Groesbeek, the Netherlands |
| | *Adelic approximation of generalized integral points* | |
| 06/2023 | **Journées Arithmétiques** | Université de Lorraine, Nancy, France |
| | *Approximation for generalized Campana points* | |
| 06/2023 | **Geometric and Arithmetic Frontiers of Orbifolds II: Arithmetic and hyperbolicity** | Université de Strasbourg |
| | *Approximation for generalized Campana points* | |
| 04/2023 | **DIAMANT symposium** | Utrecht |
| | *Approximation for generalized Campana points on projective space* | |
| 03/2023 | **LENT seminar** | Utrecht University |
| | *Approximation for generalized Campana points on toric varieties* | |

## Posters presented

| 04/2025 | **Nederlands Mathematisch Congres** | Soesterberg, the Netherlands |
| | *Counting special points on toric varieties* | |
| 11/2024 | **Instructional workshop on rational points** | Groningen, the Netherlands |
| | *M-points and adelic approximation* | |
| 06/2024 | **GAeL XXXI** | Turin, Italy |
| | *M-points and adelic approximation* | |
| 03/2024 | **Enumerative Geometry and Arithmetic** | Lorentz Center, Leiden |
| | *M-points and adelic approximation* | |

## Seminars organized

| 05/2024 | **Gong show** | Utrecht University |
| | Series of lighting talks by PhD students at the Utrecht Geometry Centre | |

## Learning seminar talks given

| 11/2024 | **Learning seminar on log stacks** | Utrecht University |
| | *Log schemes 1* | |
| 06/2024 | **Learning seminar on stacks** | Online |
| | *Deligne-Mumford stacks and examples* | |
| 03/2024 | **Rational points consortium** | Utrecht University |
| | *Arakelov theory: arithmetic curves* | |
| 02/2024 | **Campana points seminar** | Utrecht University |
| | *Darmon points and root stacks* | |
| 09/2022 | **Algebraic Geometry seminar** | Utrecht University |
| | *Weak approximation and the Hilbert property for Campana points* | |
| 02/2022 | **Algebraic Geometry seminar** | Utrecht University |
| | *Cox coordinates for toric varieties* | |
| 11/2021 | **Mazur seminar** | Utrecht University |
| | *Jacobians and criteria for the rank* | |
| 10/2021 | **Circle method seminar** | Online |
| | *Introduction to the Circle method and Warings problem* | |

## Teaching experience

Teaching assistant

| Summer/Fall 2024 | Commutative Algebra | Utrecht University |
| Spring 2024 | Probability Theory | Utrecht University |
| Summer/Fall 2023 | Commutative Algebra | Utrecht University |
| Spring 2023 | Probability Theory | Utrecht University |
| Winter 2023 | Analyis | Utrecht University |
| Summer/Fall 2022 | Commutative Algebra | Utrecht University |
| Winter 2022 | Analysis | Utrecht University |
| Summer 2021 | Linear Algebra and Infinitesimal Calculus 1 | Utrecht University |

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|---|---|---|
| Winter/Spring 2021 | Complex Analysis | Radboud University |
| Summer/Fall 2020 | Analysis 2 | Radboud University |
| Spring 2020 | Elementary Number Theory | Radboud University |
| Winter 2020 | Introduction to Fourier Theory | Radboud University |
| Summer/Fall 2019 | Calculus A | Radboud University |
| Winter/Spring 2019 | Topology | Radboud University |
| Summer/Fall 2018 | Analysis 2 | Radboud University |
| Spring 2018 | Linear Algebra B | Radboud University |
| Winter 2018 | Famous Problems in Mathematics | Radboud University |
| Fall 2017 | Kepler and Newton in Historical Perspective | Radboud University |

## Conferences attended

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|---|---|---|
| 06/2025 | **Journées Arithmétiques** *Link to site* | Université du Luxembourg, Esch-sur-Alzette, Luxembourg |
| 04/2025 | **Nederlands Mathematisch Congres** *Link to site* | Soesterberg, the Netherlands |
| 03/2025 | **Diophantine and Rationality Problems** *Link to site* | ICMS, Sofia, Bulgaria |
| 11/2024 | **Instructional workshop on rational points** *Link to site* | Groningen, the Netherlands |
| 07/2024 | **The Mordell conjecture 100 years later** *Link to site* | MIT, Cambridge, United States |
| 06/2024 | **GAeL XXXI** *Link to site* | Turin, Italy |
| 04/2024 | **Diamant symposium** | Utrecht, the Netherlands |
| 03/2024 | **Enumerative Geometry and Arithmetic** *Link to site* | Lorentz Center, Leiden, the Netherlands |
| 11/2023 | **Diamant symposium** | Eindhoven, the Netherands |
| 08/2023 | **GQT school and colloquium** School and conference on geometry and topology. | Groesbeek, the Netherlands |
| 08/2023 | **ENTR23** *Link to site* | Bielefeld University |
| 06/2023 | **Journées Arithmétiques** *Link to site* | Université de Lorraine, Nancy, France |
| 06/2023 | **Geometric and Arithmetic Frontiers of Orbifolds II: Arithmetic and hyperbolicity** *Link to site* | Université de Strasbourg, France |
| 05/2023 | **An Expedition into Arithmetic Geometry** *Link to site* | Lorentz Center, Leiden, the Netherlands |
| 04/2023 | **Diamant symposium** | Utrecht, the Netherlands |
| 03/2023 | **FRACASSO** Workshop on rationally connected varieties. *Link to site* | Université de Bordeaux, France |
| 02/2023 | **SAGA** Conference on arithmetic geometry. *Link to site* | CIRM, Marseille, France |
| 02/2023 | **intro to SAGA** Winter school on arithmetic geometry. *Link to site* | CIRM, Marseille, France |
| 11/2022 | **DIAMANT symposium** | Leiden, the Netherlands |
| 08/2022 | **GQT school and colloquium** School and conference on geometry and topology. | Zeist, the Netherlands |
| 07/2022 | **Meeting on GDR singularities** Conference on singularities of algebraic varieties. *Link to site* | Aussois, France |
| 06/2022 | **Geometric and Arithmetic Frontiers of Orbifolds** Workshop on orbifolds and stacks. *Link to site* | UQAM, Montreal, Canada |
| 04/2022 | **Rational Points on Higher-Dimensional Varieties** Conference on Diophantine geometry. *Link to site* | ICMS, Edinburgh, Scotland |
| 04/2022 | **DIAMANT symposium** | Utrecht, the Netherlands |
| 11/2021 | **DIAMANT symposium** | Utrecht, the Netherlands |

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## Seminars attended

| | | |
|---|---|---|
| 11/2022 - present | LENT seminar | Utrecht University |
| 10/2021 - present | Algebraic / Arithmetic Geometry Seminar | Utrecht University |
| 06/2025 | Rational points consortium | Leiden University |
| 04/2025 | Rational points consortium | Utrecht University |
| 01/2025 | Rational points consortium | Leiden University |
| 11/2024 - 1/2025 | Log Stacks seminar | Utrecht University/Leiden University |
| 12/2024 | Flatland Arithmetic | Utrecht University |
| 12/2024 | Rational points consortium | Utrecht University |
| 10/2024 | Belgian-Dutch Algebraic Geometry Seminar | University of Antwerp, Belgium |
| 10/2024 | Intercity number theory seminar | Leiden University |
| 06/2024 | Rational points consortium | Utrecht University |
| 06/2024 | Intercity number theory seminar | Utrecht University |
| 05/2024–06/2024 | Learning seminar on stacks | Online |
| 05/2024 | Rational points consortium | Leiden University |
| 05/2024 | Young KWG day | Utrecht University |
| 05/2024 | Intercity number theory seminar | University of Groningen |
| 04/2024 | Belgian-Dutch AG day | Utrecht University |
| 04/2024 | Rational points consortium | University of Groningen |
| 04/2024 | Campana points seminar | Utrecht University |
| 03/2024 | Rational points consortium | Utrecht University |
| 02/2024 | Campana points seminar | Utrecht University |
| 02/2024 | Flatland Arithmetic | KU Leuven |
| 01/2024 | Rational points consortium | Leiden University |
| 12/2023 | Intercity number theory seminar | University of Amsterdam |
| 12/2023 | Rational points consortium | University of Groningen |
| 11/2023 | Intercity number theory seminar | Leiden University |
| 11/2023 | Junior AG day | Utrecht University |
| 11/2023 | Rational points consortium | Utrecht University |
| 10/2023 | Belgian-Dutch Algebraic Geometry Seminar | Leiden University |
| 10/2023 | Rational points consortium | Utrecht University |
| 09/2023 | Intercity number theory seminar | Utrecht University |
| 09/2023–12/2023 | Seminar on the conjectures of Campana, Lang and Vojta | Radboud University |
| 09/2023 | Rational points consortium | Utrecht University |
| 06/2023 | Junior AG day | University of Amsterdam |
| 03/2023 | Belgian-Dutch AG day | Radboud University |
| 03/2023 | EWM meeting | Utrecht University |
| 01/2023 | Junior AG day | Radboud University |
| 12/2022 | Intercity Geometry seminar | Utrecht University |
| 11/2022 | Intercity Geometry seminar | Leiden University |
| 10/2022 | Intercity number theory seminar | Leiden University |
| 10/2022 | Intercity Geometry seminar | Radboud University |
| 10/2022 | Junior AG day | Leiden University |
| 10/2022 | Intercity Geometry seminar | University of Amsterdam |
| 09/2022 | Belgian-Dutch Algebraic Geometry Seminar | KU Leuven, Belgium |
| 09/2022 | Getaltheorie in het vlakke land | Utrecht University |
| 09/2022 | EWM meeting | Vrije Universiteit Amsterdam |
| 09/2022 | Curves over finite fields and arithmetic of K3 surfaces | University of Groningen |
| 05/2022 | Intercity number theory seminar | Utrecht University |
| 12/2021 | Junior AG day | Online |
| 11/2021 | Intercity number theory seminar | Leiden University |
| 10/2021 | Intercity number theory seminar | Leiden University |