

Boaz Moerman

PhD graduate

-  Born in Nieuwegein, the Netherlands on April 21st 1998
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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

- 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
- 2017 – 2021 **Tutorial assistant** Radboud University
Taught and graded students in 10 courses

Education

- 2019 – 2021 **Master in Mathematics, cum laude** Radboud University
Thesis: *Genus 2 fibrations*, Advisor: Prof. Dr. B. Moonen
- 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)
- 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

- 2025 **M-points of bounded height on toric varieties**
In preparation
- 2025 **M-points of bounded height**
In preparation
- 2024 **Generalized Campana points and adelic approximation on toric varieties**
Preprint
arXiv:2407.03048
- 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
- 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
- 04/2019 **Visit Dr. M. Neururer** TU Darmstadt
For discussing bachelor thesis (for honours program), 1 April – 5 April
- 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

- 09/2025 **MI talk** Utrecht University
Counting special points of bounded height
- 06/2025 **Journées Arithmétiques** Université du Luxembourg, Esch-sur-Alzette, Luxembourg
M-points of bounded height
- 04/2025 **LENT seminar** Utrecht University
M-points of bounded height
- 02/2025 **Bath Arithmetic Geometry Seminar** University of Bath, Bath, England
Generalized Campana points and adelic approximation
- 11/2024 **Oberseminar Diophantische Geometrie (online)** Georg-August Universität Göttingen, Germany
M-points and adelic approximation on toric varieties
- 10/2024 **Intercity number theory seminar** Leiden University, Leiden, the Netherlands
M-points and adelic approximation on toric varieties

Boaz Moerman

PhD graduate

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

Posters presented

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

Seminars organized

05/2024	Gong show Series of lighting talks by PhD students at the Utrecht Geometry Centre	Utrecht University
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Learning seminar talks given

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

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	Analysis	Utrecht University
Summer/Fall 2022	Commutative Algebra	Utrecht University
Winter 2022	Analysis	Utrecht University
Summer 2021	Linear Algebra and Infinitesimal Calculus 1	Utrecht University

Boaz Moerman

PhD graduate

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

11/2025	From 0 to p and back: A symposium in honour of Frans Oort's 90th birthday <i>Link to site</i>	Utrecht University, the Netherlands
06/2025	Journées Arithmétiques <i>Link to site</i>	Université du Luxembourg, Esch-sur-Alzette, Luxembourg
04/2025	Nederlands Mathematisch Congres <i>Link to site</i>	Soesterberg, the Netherlands
03/2025	Diophantine and Rationality Problems <i>Link to site</i>	ICMS, Sofia, Bulgaria
11/2024	Instructional workshop on rational points <i>Link to site</i>	Groningen, the Netherlands
07/2024	The Mordell conjecture 100 years later <i>Link to site</i>	MIT, Cambridge, United States
06/2024	GAeL XXXI <i>Link to site</i>	Turin, Italy
04/2024	Diamant symposium	Utrecht, the Netherlands
03/2024	Enumerative Geometry and Arithmetic <i>Link to site</i>	Lorentz Center, Leiden, the Netherlands
11/2023	Diamant symposium	Eindhoven, the Netherlands
08/2023	GQT school and colloquium	Groesbeek, the Netherlands
08/2023	School and conference on geometry and topology. ENTR23 <i>Link to site</i>	Bielefeld University
06/2023	Journées Arithmétiques <i>Link to site</i>	Université de Lorraine, Nancy, France
06/2023	Geometric and Arithmetic Frontiers of Orbifolds II: Arithmetic and hyperbolicity <i>Link to site</i>	Université de Strasbourg, France
05/2023	An Expedition into Arithmetic Geometry <i>Link to site</i>	Lorentz Center, Leiden, the Netherlands
04/2023	Diamant symposium	Utrecht, the Netherlands
03/2023	FRACASSO Workshop on rationally connected varieties. <i>Link to site</i>	Université de Bordeaux, France
02/2023	SAGA Conference on arithmetic geometry. <i>Link to site</i>	CIRM, Marseille, France
02/2023	intro to SAGA Winter school on arithmetic geometry. <i>Link to site</i>	CIRM, Marseille, France
11/2022	DIAMANT symposium	Leiden, the Netherlands
08/2022	GQT school and colloquium	Zeist, the Netherlands
07/2022	School and conference on geometry and topology. Meeting on GDR singularities	Aussois, France
06/2022	Conference on singularities of algebraic varieties. <i>Link to site</i> Geometric and Arithmetic Frontiers of Orbifolds Workshop on orbifolds and stacks. <i>Link to site</i>	UQAM, Montreal, Canada
04/2022	Rational Points on Higher-Dimensional Varieties Conference on Diophantine geometry. <i>Link to site</i>	ICMS, Edinburgh, Scotland
04/2022	DIAMANT symposium	Utrecht, the Netherlands
11/2021	DIAMANT symposium	Utrecht, the Netherlands

Seminars attended

11/2022 - present	LENT seminar	Utrecht University
10/2021 - present	Algebraic / Arithmetic Geometry Seminar	Utrecht University
11/2025 - present	Reading seminar on the Geometric Manin Conjecture	Utrecht University
10/2025	Rational points consortium	Groningen 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