

# 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	<b>PhD</b> Thesis: <i>Generalized Campana points and toric varieties</i> in arithmetic geometry, with emphasis on generalisations of Campana points and toric varieties. Advisor: Dr. M. Pieropan	Utrecht University
2017 – 2021	<b>Tutorial assistant</b> Taught and graded students in 10 courses	Radboud University

## Education

2019 – 2021	<b>Master in Mathematics, cum laude</b> Thesis: <i>Genus 2 fibrations</i> , Advisor: Prof. Dr. B. Moonen	Radboud University
2017 – 2019	<b>Honours program</b> 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)	Radboud University
2016 – 2019	<b>Bachelor in Mathematics, cum laude</b> Thesis: <i>Eisenstein series and periods</i> , Advisor: Prof. Dr. W. Zudilin. Expanded on during my masters program and published as <i>L-values for conductor 32</i> .	Radboud University

## Publications

2025	<b>M-points of bounded height on toric varieties</b> <i>In preparation</i>	
2025	<b>M-points of bounded height</b> <i>In preparation</i>	
2024	<b>Generalized Campana points and adelic approximation on toric varieties</b> <i>Preprint</i> arXiv:2407.03048	
2022	<b>L-values for conductor 32</b> <i>Journal of Number theory</i> DOI: 10.1016/j.jnt.2021.09.013, ISSN: 0022-314X	

## Research visits

09/2024	<b>Visit Dr. V. Mitankin</b> Visit to discuss approximation properties for M-points and the associated Brauer-Manin obstruction, 9 September – 13 September	Bulgarian Academy of Sciences
02/2024	<b>Workshop Campana points on toric varieties II</b> Small scale meeting to discuss counting Campana points on toric varieties, 19 February – 23 February	University of Bristol
04/2019	<b>Visit Dr. M. Neururer</b> For discussing bachelor thesis (for honours program), 1 April – 5 April	TU Darmstadt
03/2019	<b>Visit Dr. F. Brunault (and R. Pengo)</b> For discussing bachelor thesis (for honours program), 21 March – 27 March	ENS Lyon

## Research talks given

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

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

## Posters presented

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

## Seminars organized

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

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

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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

11/2025	<b>From 0 to p and back: A symposium in honour of Frans Oort's 90th birthday</b> <i>Link to site</i>	Utrecht University, the Netherlands
06/2025	<b>Journées Arithmétiques</b> <i>Link to site</i>	Université du Luxembourg, Esch-sur-Alzette, Luxembourg
04/2025	<b>Nederlands Mathematisch Congres</b> <i>Link to site</i>	Soesterberg, the Netherlands
03/2025	<b>Diophantine and Rationality Problems</b> <i>Link to site</i>	ICMS, Sofia, Bulgaria
11/2024	<b>Instructional workshop on rational points</b> <i>Link to site</i>	Groningen, the Netherlands
07/2024	<b>The Mordell conjecture 100 years later</b> <i>Link to site</i>	MIT, Cambridge, United States
06/2024	<b>GAeL XXXI</b> <i>Link to site</i>	Turin, Italy
04/2024	<b>Diamant symposium</b> <i>Link to site</i>	Utrecht, the Netherlands
03/2024	<b>Enumerative Geometry and Arithmetic</b> <i>Link to site</i>	Lorentz Center, Leiden, the Netherlands
11/2023	<b>Diamant symposium</b> <i>Link to site</i>	Eindhoven, the Netherlands
08/2023	<b>GQT school and colloquium</b> School and conference on geometry and topology.	Groesbeek, the Netherlands
08/2023	<b>ENTR23</b> <i>Link to site</i>	Bielefeld University
06/2023	<b>Journées Arithmétiques</b> <i>Link to site</i>	Université de Lorraine, Nancy, France
06/2023	<b>Geometric and Arithmetic Frontiers of Orbifolds II: Arithmetic and hyperbolicity</b> <i>Link to site</i>	Université de Strasbourg, France
05/2023	<b>An Expedition into Arithmetic Geometry</b> <i>Link to site</i>	Lorentz Center, Leiden, the Netherlands
04/2023	<b>Diamant symposium</b> <i>Link to site</i>	Utrecht, the Netherlands
03/2023	<b>FRACASSO</b> Workshop on rationally connected varieties. <i>Link to site</i>	Université de Bordeaux, France
02/2023	<b>SAGA</b> Conference on arithmetic geometry. <i>Link to site</i>	CIRM, Marseille, France
02/2023	<b>intro to SAGA</b> Winter school on arithmetic geometry. <i>Link to site</i>	CIRM, Marseille, France
11/2022	<b>DIAMANT symposium</b> <i>Link to site</i>	Leiden, the Netherlands
08/2022	<b>GQT school and colloquium</b> School and conference on geometry and topology.	Zeist, the Netherlands
07/2022	<b>Meeting on GDR singularities</b> Conference on singularities of algebraic varieties. <i>Link to site</i>	Aussois, France
06/2022	<b>Geometric and Arithmetic Frontiers of Orbifolds</b> Workshop on orbifolds and stacks. <i>Link to site</i>	UQAM, Montreal, Canada
04/2022	<b>Rational Points on Higher-Dimensional Varieties</b> Conference on Diophantine geometry. <i>Link to site</i>	ICMS, Edinburgh, Scotland
04/2022	<b>DIAMANT symposium</b> <i>Link to site</i>	Utrecht, the Netherlands
11/2021	<b>DIAMANT symposium</b> <i>Link to site</i>	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
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
10/2024	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