

# Ronald van Luijk

Curriculum Vitae  
November 2023

Mathematisch Instituut  
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## Affiliations

- 2019– **Universiteit Leiden**, the Netherlands (full professor)
- 2014–2019 **Universiteit Leiden**, the Netherlands (associate professor)
- 2008–2014 **Universiteit Leiden**, the Netherlands (assistant professor)
- 2012 (Fall) **École Polytechnique Fédérale de Lausanne (EPFL)**, Switzerland
- 2012 (Sum.) **Centre Interfacultaire Bernoulli (CIB), EPFL**, Lausanne, Switzerland (visiting professor)
- 2008 **Warwick University**, Coventry, United Kingdom
- 2006–2008 **Pacific Institute for the Mathematical Sciences (PIMS), SFU/UBC**, Vancouver, Canada
- 2007 (Sum.) **Jacobs University Bremen, International Center for Transdisciplinary Studies**, Germany
- 2006 (Fall) **Universidad de los Andes**, Bogotá, Colombia (visiting professor)
- 2006 (Spr.) **Mathematical Sciences Research Institute (MSRI)**, Berkeley, USA
- 2005 (Fall) **Centre de Recherches Mathématiques (CRM)**, Montréal, Canada
- 2004 (Fall) **Institut Henri Poincaré (IHP)**, Paris, France

## Education

- 2005.05 **University of California at Berkeley**, USA  
Ph.D. in Mathematics (advisor : H.W. Lenstra, Jr.)  
Thesis title: *Rational points on K3 surfaces*
- 2000.06 **Universiteit Utrecht**, the Netherlands  
Doctoraalexamen in Mathematics (cum laude)  
Thesis title: *On perfect cuboids* (advisors: F. Beukers and B. Moonen)
- 1996 **Universiteit Utrecht**, the Netherlands  
Propedeuse in Mathematics (cum laude)  
Propedeuse in Computer Science (cum laude)

## Grants

- 2008– Various supporting grants for organized conferences
- 2023–2028 NWO-XL (3,000,000€), as one of six PI's (two from Leiden, Utrecht and Groningen)  
Consortium *Rational Points: new dimensions*
- 2012–2018 NWO Vidi grant (800,000€), Innovational Research Incentives Scheme  
*Counting points on surfaces*
- 2017 NWO Visitor grant (for Nils Bruin)
- 2012–2016 International Research Training Group, Berlin–Amsterdam–Leiden, NWO/DFG  
*Moduli and Automorphic Forms: Arithmetic and Geometric Aspects*
- 2012–2013 DIAMANT funding for two-year postdoc position (for Rachel Newton)
- 2007 Marie-Curie fellowship, University of Warwick
- 2006 PIMS postdoctoral fellowship, UBC/SFU, Vancouver
- 2006 Three year fellowship from Deutsche Forschungsgemeinschaft (DFG) (declined)
- 2000–2001 Talentenprogramma fellowship (NUFFIC)

## Awards

- 2019 Nominated by Mathematical Institute for Faculty “Teacher of the year” award
- 2007 G. de B. Robinson Award for best paper in the Canadian Mathematical Bulletin
- 2003 Outstanding Graduate Student Instructor Teaching Award, UC Berkeley
- 1997–2000 First place in “Universitaire Wiskundecompetitie” (University Mathematical Competition for undergraduates in The Netherlands and Flanders)
- 1998 Timman prize for exceptional solution to the “Universitaire Wiskundecompetitie” (see above)
- 1996 Fourth place in “Universitaire Wiskundecompetitie” (see above)
- 1994, 1995 Bronze medal at International Mathematical Olympiad (IMO)

## Peer-reviewed articles

1. On the Galois-invariant part of the Weyl group of the Picard lattice of a K3 surface (with W. Nijgh)  
To appear in *Indagationes Mathematica* (2024), arXiv:2304.14686
2. Concurrent lines on del Pezzo surfaces of degree one (with R. Winter)  
*Mathematics of Computation*, Volume 92 (2023), pp. 451–481
3. The action of the Weyl group on the E8 root system (with R. Winter)  
*Graphs and Combinatorics*, Volume 37 (2021), no. 6, 1965–2064
4. Finiteness theorems for K3 surfaces over arbitrary fields (with M. Bright and A. Logan)  
*European Journal of Mathematics*, Volume 6 (2020), 336–366
5. Unirationality of del Pezzo surfaces of degree two over finite fields (with D. Festi)  
*Bulletin of the London Mathematical Society*, Volume 48 (2016), 135–140
6. Computing Néron–Severi groups and cycle class groups (with B. Poonen and D. Testa)  
*Compositio Mathematica*, Volume 151 (2015), no. 4, 713–734
7. Density of rational points on Del Pezzo surfaces of degree one (with C. Salgado)  
*Advances in Mathematics*, Volume 261 (2014), 154–199
8. Explicit Selmer groups for cyclic covers of  $\mathbb{P}^1$  (with M. Stoll)  
*Acta Arithmetica*, Volume 159 (2013), 133–148
9. The Cayley–Oguiso automorphism of positive entropy on a K3 surface  
(with D. Festi, A. Garbagnati, and B. van Geemen)  
*Journal of Modern Dynamics*, Volume 7, No. 1 (2013), 75–97
10. Density of rational points on elliptic surfaces  
*Acta Arithmetica*, Volume 156, no. 2 (2012), 189–199
11. Squares from blocks of consecutive integers: a problem of Erdős and Graham (with M.A. Bennett)  
*Indagationes Mathematicae*, Volume 23 (2012), 123–127
12. Two-coverings of Jacobians of curves of genus two (with D. Testa and V. Flynn)  
*Proceedings of the London Mathematical Society*, Volume 104, no. 2 (2012), 387–429
13. Cubic points on cubic curves and the Brauer–Manin obstruction for K3 surfaces  
*Acta Arithmetica*, Volume 146, no. 2 (2011), 153–172
14. On character varieties of two-bridge knot groups (with M. Macasieb and K. Petersen)  
*Proceedings of the London Mathematical Society*, Volume 103, no. 2 (2011), 473–507
15. Wehler K3 surfaces with Picard number 3 and 4  
Appendix to: Orbits of points on certain K3 surfaces, by Arthur Baragar  
*Journal of Number Theory*, Volume 131, Issue 3 (2011), 600–603
16. Lines on Fermat surfaces (with M. Schütt and T. Shioda)  
*Journal of Number Theory*, Volume 130 (2010), 1939–1963
17. Density of rational points on diagonal quartic surfaces (with A. Logan and D. McKinnon)  
*Algebra and Number Theory*, Volume 4, No. 1 (2010), 1–20
18. Nontrivial elements of Sha explained through K3 surfaces (with A. Logan)  
*Mathematics of Computation*, Volume 78 (2009), 441–483

19. Non-Euclidean Pythagorean triples, a problem of Euler, and rational points on K3 surfaces  
*Mathematical Intelligencer*, Volume 30, No. 4 (2008), 4–10 (with R. Hartshorne)
20. The diameter of the circumcircle of a Heron triangle  
*Elemente der Mathematik*, Volume 63, Issue 3 (2008), 118–121
21. K3 surfaces with Picard number one and infinitely many rational points  
*Algebra and Number Theory*, Volume 1, No. 1 (2007), 1–15
22. K3 surfaces with Picard number three and canonical vector heights (with A. Baragar)  
*Mathematics of Computation*, Volume 76 (2007), 1493–1498
23. An elliptic K3 surface associated to Heron triangles  
*Journal of Number Theory*, Volume 123 (2007), 92–119
24. A K3 surface associated with certain integral matrices with integral eigenvalues  
*Canadian Mathematical Bulletin*, Volume 49, No. 4 (2006), 560–577
25. Quartic K3 surfaces without nontrivial automorphisms  
*Mathematical Research Letters*, Volume 13, No. 3 (2006), 423–439

#### Non-peer-reviewed publications

1. NMC Nieuwe stijl  
*Nieuw Archief voor Wiskunde (5)*, Volume 16, No. 2 (2015), 130–132
2. Two-coverings of Jacobians  
*Oberwolfach Reports (OWR)*, Explicit Methods in Number Theory (2009)
3. The Manin conjecture for K3 surfaces  
*Oberwolfach Reports (OWR)*, EMNT (2007)
4. Explicit computations on the Manin conjectures  
*Oberwolfach Reports (OWR)*, EMNT (2005)
5. A linear algebra exercise (with F. Beukers and R. Vidunas)  
*Nieuw Archief voor Wiskunde (5)*, Volume 3, No. 2 (2002), 139–140
6. Hex, dots and boxes (with S. van Rijnsouw, book report)  
*Nieuw Archief voor Wiskunde (5)*, Volume 2, No. 4 (2001), 358–361
7. Wiskunde Olympiade (with J. van de Craats and T. Notenboom)  
*Nieuw Archief voor Wiskunde (5)*, Volume 1, No. 4 (2000), 448–450

#### Books and papers in preparation

1. Rational points on a family of del Pezzo surfaces of degree one (with W. Nijgh, in preparation)
2. Rational points on del Pezzo surfaces of degree one (with J. Bulthuis, in preparation)
3. Extending isomorphisms of subgraphs to automorphisms (in preparation)
4. Juggling functions (with J. Veenman, in preparation)
5. Geometry and arithmetic of surfaces (with M. Bright and D. Testa, book in preparation)
6. Linear Algebra 1 (with M. Stoll, book in preparation)
7. Linear Algebra 2 (with M. Stoll, book in preparation)

## Students and postdocs

### Bachelor students

- 2024 (exp.) Joep Veenman, *The mathematics of juggling*, Leiden  
 2022 Hugo Zock, *Twists*, Leiden  
 2022 Patrick Stok, *Computing the dimension of a variety with Gröbner bases*, Leiden  
 2021 Patrick Berkhoff, *Graphical Calculation of the Pfaffian*, Leiden, co-advisor Owen Biesel  
 2020 Nada Sisan, *Gröbner bases en Euclidische meetkunde*, Leiden  
 2018 Anneloes Viergever, *Two cases of Fermat's Last Theorem using descent on elliptic curves*, Leiden  
 2016 Tim Brouwer, *Solving an arbitrary permutation puzzle*, Leiden  
 2016 Ingela Mennema, *Roosters*, Leiden, co-advisor Erik Visse  
 2014 Arthur Bik, *Elliptic curves with high rank*, Delft  
 2012 Ellen Schlebusch, *Het Hasse-principe*, Leiden  
 2012 Erik Massop, *Hilbert's tenth problem*, Leiden, co-advisor Hendrik Jan Hoogeman (Computer Science)  
 2011 Remy van Dobben de Bruyn, *The modularity theorem*, Leiden, co-advisor Cecilia Salgado  
 2010 Wouter Zomervrucht, *De complexiteit van Buchbergers algoritme*, Leiden, co-advisor Jeannette de Graaf (Computer Science)  
 2009 Youssef Achnine, *Rationale tetraëders*, Leiden

### Master students

- 2024 (exp.) Tim Karl, Leiden  
 2024 (exp.) Erik Massop, Leiden  
 2023 Line van Nifterik, *Edwards curves*, Leiden  
 2022 Wim Nijgh, *Rational points on a family of del Pezzo surfaces of degree one*, Leiden  
 2018 Jelle Bulthuis, *Rational points on del Pezzo surfaces of degree one*, Leiden  
 2016 Arthur Bik, *The varieties of  $e$ -th powers*, Leiden  
 2015 Mauro Mantegazza, *Compactness in Toposes*, Leiden, co-advisor Sandra Mantovani, Jaap van Oosten  
 2014 Rosa Winter, *Concurrent exceptional curves on del Pezzo surfaces of degree one*, Leiden  
 2014 Erik Visse, *Local computations on the Cassels–Tate pairing on an elliptic curve*, Leiden  
 2012 Dino Festi, *Density of rational points on a family of diagonal quartic surfaces*, Leiden  
 2011 Davide Calliari, *Reconstruction of cubic surfaces*, Leiden, co-advisor Robin de Jong  
 2006 Enrique Acosta, *Rational tetrahedra*, Bogotá

### Ph.D. students for whom I am main advisor

- 2027 (exp.) Victor de Vries, Leiden  
 2026 (exp.) Wim Nijgh, Leiden  
 2021 Rosa Winter, *Geometry and arithmetic of del Pezzo surfaces of degree 1*, Leiden, co-advisor Martin Bright  
 (Top five for KWG prize for best PhD student in Mathematics in the Netherlands, 2020)  
 2018 Erik Visse, *Counting points on  $K3$  surfaces and other arithmetic-geometric objects*, Leiden  
 (Top five for KWG prize for best PhD student in Mathematics in the Netherlands, 2017)  
 2016 Dino Festi, *Topics in the arithmetic of del Pezzo and  $K3$  surfaces*, Algant Leiden/Milano, co-advisor Bert van Geemen  
 2013 René Pannekoek, *Topological aspects of rational points on  $K3$  surfaces*, Leiden  
 (Philips prize for best PhD student in Mathematics in the Netherlands, 2013)

### Ph.D. students for whom I am second advisor

- 2025 (exp.) Francesca Leonardi, Leiden, main advisor Marton Habcicsek  
 2025 (exp.) Storm Wolters, Leiden, main advisor Robin de Jong  
 2025 (exp.) Jesse Vogel, Leiden, main advisor Marton Habcicsek  
 2025 (exp.) Nikolas Adaloglou, Leiden, main advisor Federica Pasquotto  
 2025 (exp.) Georgios Politopoulos, Leiden, main advisors David Holmes and Adrien Sauvaget  
 2025 (exp.) Xiao Yang, Leiden, main advisor Martin Bright  
 2024 (exp.) Pim Spelier, Leiden, main advisor David Holmes  
 2024 (exp.) Margherita Pagano, Leiden, main advisor Martin Bright  
 2024 (exp.) Daan van Gent, Leiden, main advisor Hendrik Lenstra  
 2023 Rosa Schwarz, *Logarithmic approach to the double ramification cycle*, Leiden, main advisor David Holmes

- 2022 Ruihua Wang, *Explicit Computation of the Height of a Gross-Schoen Cycle*  
Leiden, main advisors David Holmes and Robin de Jong
- 2022 Stefan van der Lugt, *Tautological differential forms on moduli spaces of curves*  
Leiden, main advisor Robin de Jong
- 2021 Jan Bouw, *On the computation of norm residue symbols*,  
Leiden, main advisor Hendrik Lenstra
- 2017 Niels Lindner, *Hypersurfaces with defect and their densities over finite fields*,  
Berlin/Leiden, main advisor Remke Kloosterman
- 2016 Yan Zhao, *Deformations of nodal surfaces*,  
Alcant Leiden/Milano, main advisor Bert van Geemen

#### **Postdocs**

- 2022–2026 Emma Brakkee, Leiden
- 2023–2025 Haowen Zhang, Leiden
- 2023–2025 David Lilienfeldt, Leiden
- 2019–2021 Adelina Mânzăteanu, Leiden
- 2015–2017 Efthymios Sofos, Leiden
- 2012–2014 David Holmes, Leiden
- 2012–2014 Rachel Newton, Leiden
- 2009–2011 Cecília Salgado, Leiden

#### **Ph.D. defense committees**

- 2023 Alessandro Danelon (Eindhoven), Marc Houben (Leuven), Wessel van Woerden (Leiden)
- 2022 Elizaveta Arzhakova, Jared Asuncion, Sebastiano Tronto, Koen de Boer, Mia Jukic (Leiden)
- 2021 Abtien Javan Peykar, Pavel Solomatin, Guido Lido (Leiden)
- 2020 Sjabbo Schaveling, Thibault Poirat, Steven Berghout (Leiden)
- 2019 Anna Somoza Henares, Peter Koymans, Julian Lyczak, Niels Langeveld, Garnet Akeyr, Gabriele Dalla Torre (Leiden)
- 2018 Eduardo Ruiz Duarte (Groningen), Raymond van Bommel (Leiden)
- 2017 Jinbi Jin, Mima Stanojkovski, Martin Djukanović (Leiden)
- 2016 Florian Bouyer (Warwick)
- 2015 Athanasios Angelakis, Weidong Zhuang (Leiden)
- 2014 Michiel Kusters (Leiden)
- 2013 Andrea Siviero, Samuele Anni, Chao Zhang (Leiden)
- 2011 Arjen Stolk (Leiden), Bas Heijne (Groningen)
- 2010 Marco Streng (Leiden)
- 2009 Jos Brakenhoff (Leiden)

#### **Organized extradepartmental meetings**

- 2024.11 *Workshop Rational Points: new dimensions*, Groningen
- 2023.05 *An Expedition into Arithmetic Geometry* (memorial Bas Edixhoven), Leiden
- 2023.04 *Density Problems in Arithmetic*, CIRM, Luminy (scientific committee)
- 2012–2019 *Intercity Number Theory Seminar*, national seminar, the Netherlands
- 2018.04 *Nederlands Mathematisch Congres* (NMC), Veldhoven (program committee)
- 2015.04 *Nederlands Mathematisch Congres* (NMC), Leiden (chair of organising committee)
- 2011.11 *Criptografía*, Universidad de los Andes, Colombia (Master student workshop)
- 2010.10 *Arithmetic of surfaces*, Lorentz center, Leiden (conference)
- 2009.04 *Hendrik Lenstra's 60th birthday*, Leiden
- 2009.04 *Counting points on varieties*, Lorentz center, Leiden (conference)
- 2009.04 *Counting points on varieties*, Lorentz center, Leiden (Ph.D. student workshop)
- 2009.02 *Norm residue symbols*, Leiden (workshop)
- 2008.12 *Arithmetic of K3 surfaces*, Banff International Research Station, Canada (conference)
- 2008.10 *The Hasse principle*, Universidad de los Andes, Colombia (Master student workshop)
- 2008.04 *Surfaces: geometry and arithmetic*, University of Warwick (Ph.D. student workshop)
- 2006.10 *Number theory in cryptography*, Universidad de los Andes, Colombia (Master student workshop)

### Lecture Series

- 2016.04 *The geometry of del Pezzo surfaces*, Higher School of Economics (HSE), Moscow (3 lectures)
- 2011.11 *Criptografía*, Universidad de los Andes, Colombia (4 lectures)
- 2009.04 *Batyrev–Manin conjecture*, Lorentz center, Leiden (4 lectures)
- 2008.10 *The Hasse principle*, Universidad de los Andes, Colombia (4 lectures)
- 2008.04 *Arithmetic and geometry of surfaces: Brauer–Manin obstructions*, University of Warwick, United Kingdom (5 lectures)
- 2006.10 *Cryptography in number theory*, Universidad de los Andes, Colombia (5 lectures)
- 2004, 2005 *Freshmen Preparation Bootcamp* (Summer), UC Berkeley’s Multicultural Engineering Program

### Invited Conference Talks

- 2022.08 Curves over finite fields and arithmetic of K3 surfaces, **Groningen**
- 2019.07 Rational Points 2019, **Schney**
- 2018.07 Recent progress in the arithmetic and geometry of K3 surfaces, **Trento**
- 2018.05 Rational and Integral Points via Analytic and Geometric Methods, **Oaxaca**
- 2015.11 Moduli Spaces and Arithmetic Geometry (Frans Oort 80), **Leiden**
- 2015.07 Rational Points 2015, **Schney**
- 2015.05 Pontos Racionais, **Rio de Janeiro**
- 2014.12 Foundations of Computational Mathematics, **Montevideo**
- 2014.05 Theoretical and Practical Aspects of the Discrete Logarithm Problem, **Ascona**
- 2013.05 Rational Points–Geometric, Analytic and Explicit Approaches, **Warwick**
- 2013.02 Brauer groups and obstruction problems: moduli spaces and arithmetic, **Palo Alto**
- 2013.02 Nationale Wiskunde Dagen, **Noordwijkerhout**
- 2012.02 Workshop on algebraic surfaces, **Hannover**
- 2012.01 Joint Mathematics Meetings, AMS Special Session on Rational Points on Varieties, **Boston**
- 2010.05 Rational Points – Theory & Experiment, **Zürich**
- 2010.03 Arithmetic aspects of elliptic surfaces, HIM, **Bonn**
- 2010.02 Algebraic Geometry in Characteristic  $p$  and Related Topics, Hosei Univ., **Tokyo**
- 2009.09 Arithmetic and algebraic geometry of higher-dimensional varieties, **Bristol**
- 2009.09 3rd Annual Meeting – GTEM (Galois Theory and Explicit Methods), **Warwick**
- 2009.07 Explicit Methods in Number Theory, **Oberwolfach**
- 2008.10 Arithmetic of K3 surfaces, BIRS, **Banff**
- 2008.07 Canadian Number Theory Association meeting (CNTA X), **Waterloo**
- 2008.06 Dynamique et surfaces K3, **Rennes**
- 2008.06 Rational Points on Curves and Higher Dimensional Varieties, **Warwick**
- 2008.06 Foundations of Computational Mathematics (FoCM 6), **Hong Kong**
- 2007.07 Rational Points on Curves and Higher-Dimensional Varieties: Theory and Explicit Methods, **Bremen**
- 2007.07 Explicit Methods in Number Theory, **Oberwolfach**
- 2007.02 Explicit Methods for Rational Points on Curves, BIRS, **Banff**
- 2007.02 10th International Workshop on Differential Equations, Number Theory, Data Analysis Methods and Geometry, **Havana**
- 2006.07 Canadian Number Theory Association meeting (CNTA IX), **Vancouver**
- 2006.05 Analytic Methods for Diophantine Equations, BIRS, **Banff**
- 2006.01 Joint Mathematics Meetings, AMS Special Session on Field Extensions and Algorithms, **San Antonio**
- 2005.10 Arithmetic and Geometry of Higher Dimensional Varieties with Special Emphasis on Calabi-Yau Varieties and Mirror Symmetry, Fields Institute, **Toronto**
- 2005.07 Explicit Methods in Number Theory, **Oberwolfach**
- 2005.04 The Pacific North West Number Theory Conference 9, **Vancouver**
- 2004.11 Explicit Methods in Number Theory, BIRS, **Banff**
- 2004.10 Arithmetic Geometry, IHP, **Paris**

### Seminar and colloquium talks

- 2021.11 Algebraic Geometry Seminar, **HSE University, Moscow**
- 2016.06 Department colloquium, **VU Amsterdam**
- 2016.03 Intercity Number Theory Seminar, **UvA Amsterdam**

- 2013.10 Oberseminar für algebraische Geometrie und Arithmetik, **Essen**
- 2013.05 Séminaire “Variétés rationnelles”, ENS, **Paris**
- 2013.02 Department colloquium, **Utrecht**
- 2013.02 Algebraic geometry seminar, **Cambridge**
- 2012.12 Algebraic geometry seminar, **Zürich**
- 2012.10 Rational Points and Algebraic Cycles seminar, **Lausanne**
- 2012.05 Intercity seminar number theory, **Leiden**
- 2011.11 Algebra seminar, **Bogotá**
- 2011.05 Séminaire “Variétés rationnelles”, ENS, **Paris**
- 2011.03 Intercity seminar number theory, **Amsterdam**
- 2010.11 Number theory seminar, **Cambridge**
- 2010.04 Intercity seminar number theory, **Leiden**
- 2009.09 Intercity seminar number theory, **Eindhoven**
- 2009.06 Forschungsseminar “Arithmetische Geometrie”, **Berlin**
- 2009.05 Department colloquium, **Leiden**
- 2008.11 Algebra seminar, **Leiden**
- 2008.10 Department colloquium, Universidad de los Andes, **Bogotá**
- 2008.09 Intercity seminar number theory, **Leiden**
- 2008.05 Heilbronn number theory seminar, **Bristol**
- 2008.05 Number theory seminar, **Oxford**
- 2008.05 Number theory seminar, **Berkeley**
- 2008.04 Number theory seminar, **Warwick**
- 2008.02 SFU/UBC Number theory Seminar, **Vancouver**
- 2008.02 Algebraic geometry seminar, UBC, **Vancouver**
- 2007.10 Intercity seminar number theory, CWI, **Amsterdam**
- 2007.09 SFU/UBC Number theory seminar, **Vancouver**
- 2007.06 Number theory seminar, **Bristol**
- 2007.05 Intercity seminar number theory, **Leiden**
- 2007.01 Number theory seminar, **Berkeley**
- 2007.01 SFU/UBC Number theory seminar, **Vancouver**
- 2006.09 Department colloquium, Universidad de los Andes, **Bogotá**
- 2006.05 Number theory seminar, **San Diego**
- 2006.03 MSRI, **Berkeley**
- 2006.02 Number theory seminar, **Austin**
- 2005.10 Number theory seminar, Boston University, **Boston**
- 2005.10 Québec–Vermont seminar series, **Montréal**
- 2005.10 Department colloquium, Queen’s University, **Kingston**
- 2005.10 Number theory seminar, Queen’s University, **Kingston**
- 2005.03 Intercity seminar number theory, **Groningen**
- 2005.02 Number theory seminar, **Harvard**

### Teaching

Universiteit Leiden

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|-----------------------|---|
| 2017, 2022, 2024      | Algebra 3 (Galois theory)                                 |
| 2014–2023             | Linear algebra 2  |
| 2023                  | Linear algebra for Computer Science 2 (~ 250 students)    |
| 2022                  | Linear algebra for Computer Science 1 (~ 300 students)    |
| 2011, 2013, 2018–2020 | Algebra 1 (group theory)                                  |
| 2008–2011, 2013–2015  | Linear algebra 1  |
| 2014                  | Calculus for Bio-Pharmaceutical Sciences (~ 180 students) |
| 2009–2013             | Bachelor seminar  |
| 2011                  | Local fields  |

National mastermath courses (Netherlands)

- 2020, 2023      Advanced Algebraic Geometry: Rational Points
- 2009, 2011, 2020    Elliptic curves
- 2013              Rational points on varieties

École Polytechnique Fédérale de Lausanne (EPFL)

- 2012, Fall        Algebra (tutorial)

Universidad de los Andes

- 2006, Fall        Elliptic curves
- 2006, Fall        Calculus

University of California at Berkeley

- 2001, 2003, 2005    Calculus (Professional Development Program)
- 2004, Summer      Calculus (Lecturer)
- 2002, Fall          Linear algebra (Graduate Student Instructor)
- 2002, Summer      Discrete mathematics (Lecturer)
- 2001, Spring        Calculus (Graduate Student Instructor)

**Committees Leiden University (selection)**

- 2022–            Advisory board for Management Team Mathematical Institute of Leiden University
- 2022–            C.J. Kok committee, annually awarding multiple faculty-wide prizes
- 2018–            Various hiring committees for Mathematical Institute of Leiden University
- 2013–2023    Member Board of Examiners, Leiden (chair since 2014)
- 2011–2013    Faculty council

**Committees outside Leiden University (selection)**

- 2024–            Treasurer Foundation Compositio
- 2017–            Board member Foundation Computer Algebra Nederland (CAN)
- 2017–2018    NWO (Dutch Science Foundation): Veni grant selection committee (chair in 2018)

**Professionalism courses (selection)**

- 2023            Diversity and Inclusion Training for hiring committees
- 2023            Conversational Intelligence
- 2022            Academic Leadership
- 2022            Diversity and Inclusion Strategy
- 2010            University Teaching Qualification
- 2010            Intercultural Competencies

**Broader impact and outreach (selection)**

- 2023            Co-organiser annual meeting Ars et Mathesis about mathematics and art
- 2023            Panel member on fixing the leaky pipeline: keeping women in academics
- 2023            Pre-university: lecturing high school students about mathematics behind juggling
- 2018, 2023    Speaker at Science Family Day: “Is your birthday a juggling pattern?”
- 2022            Co-organiser and guide for the exhibition “Imaginary” in Leiden
- 2019            Pre-university: project advisor of high school students Rafaël Houkes and Rik van der Linde, who won the Jan Kijne prize for their project on elliptic curves
- 2019            Pre-university: lecturing high school students about crypto system RSA
- 2017            Guide for the exhibition “Imaginary” in Leiden
- 2004–2013    Editor of problem section of “Nieuw Archief voor Wiskunde”
- 2011            Chief Coordinator (grading) International Mathematical Olympiad (IMO) 2011
- 2011            Member of the Problem Selection Committee for IMO 2011
- 2010            Chief Coordinator Benelux Mathematical Olympiad
- 1996–2001    Trainer of Dutch team for International Mathematical Olympiad (Deputy leader at IMO 1999–2001)
- 1996–2000    Editor of problem section in Dutch mathematical magazine “Pythagoras” for high school students
- 1996            Leader of a mathematics summer camp for high school students for Stichting Vierkant