

Curriculum Vitae Rosa Winter

Contact:

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Research Interests

Arithmetic geometry, density of rational points, del Pezzo surfaces of degree one and the configurations of their lines, elliptic fibrations.

Education

2016 - current PhD Student, Leiden University, supervised by Martin Bright and Ronald van Luijk.
2014 - 2015 Master degree in Education, University of Amsterdam
2011 - 2014 Master degree in Mathematics, Leiden University and University of Padua
2008 - 2011 Bachelor degree in Mathematics, Leiden University

Academic positions

Sep 2020 - current Max Planck Institute for Mathematics in the Sciences, Leipzig.
Postdoctoral researcher in the Nonlinear Algebra group of Bernd Sturmfels.

Teaching

Fall 2016 - 2019 Calculus (Course developer and Teacher), Leiden University College, The Hague
Spring 2018 Elliptic curves (Teaching assistant), Dutch Mastermath course
2014 - 2016 Full-time mathematics teacher, Calandlyceum Amsterdam (high school)
Fall 2013 Rational Points on Varieties (Teaching assistant), Dutch Mastermath course

Preprints

- Fields of definition of elliptic fibrations on covers of certain extremal rational elliptic surfaces (with V. Cantoral-Farfán, A. Garbagnati, C. Salgado, and A. Trbović). arXiv:2007.14043. *To appear in Women in Numbers Europe III: Research Directions in Number Theory.*
- The action of the Weyl group on the E_8 root system (with R. van Luijk). arXiv:1901.06945. (*submitted for publication.*)
- Concurrent exceptional curves on del Pezzo surfaces of degree one (with R. van Luijk). arXiv:1906.03162. (*submitted for publication.*)

Nominations/awards/grants

- Nominated for the PhD prize of the Dutch Royal Mathematical Society in 2020, a prize for the best presentation of PhD research in mathematics.
- Research in Paris Grant 2020, funding for a three week research stay at the Institut Henri Poincaré, Paris (with J. Desjardins and J. Park).

Invited talks

- 22/09/2020 Arithmetic Geometry Seminar (online), Ohio State University.
03/06/2020 *What I work on*
PhD colloquium (online), Universiteit Leiden.
14/04/2020 *Rational points on del Pezzo surfaces of degree one*
Nonlinear Algebra Seminar Online, MPI-MiS Leipzig.
26/02/2020 *Density of rational points on a family of del Pezzo surfaces of degree one*
Heilbronn Number Theory Seminar, University of Bristol.
07/02/2020 *Density of rational points on a family of del Pezzo surfaces of degree one*
Intercity Number Theory Seminar, Universiteit Leiden.
18/12/2019 *Density of rational points on a family of del Pezzo surfaces of degree one*
Seminario di Natale, University of Milan
11/12/2019 *Density of rational points on a family of del Pezzo surfaces of degree one*
Number Theory Seminar, University of Copenhagen
06/03/2019 *Concurrent lines on del Pezzo surfaces of degree one*
Number/Representation Theory seminar, University of Toronto
26/06/2018 *Configurations of lines on del Pezzo surfaces*
Konstanz Women in Mathematics lecture series, University of Konstanz
31/05/2018 *Configurations of lines on del Pezzo surfaces*
Bernoullis Tafelrunde, Graduate Student Seminar, University of Basel

Contributed talks and poster sessions

- 18/06/2018 *Concurrent exceptional curves on del Pezzo surfaces of degree one* (poster)
Géométrie Algébrique en Liberté (GAeL XXVI), University of Strasbourg
21/03/2018 *Counting Curves*
Seminar 'Tropical Geometry', Leiden University
11/09/2017 *Concurrent exceptional curves on del Pezzo surfaces of degree one* (poster)
Diophantine problems (DIOP), University of Manchester
07/07/2017 *Concurrent exceptional curves on del Pezzo surfaces of degree one*
XXX-èmes Journées Arithmétiques, Université de Caen Normandie
15/02/2017 *Introduction to local-global principles: the Hasse principle and weak approximation*
Seminar 'Obstructions to local-global principles', Leiden University
02/11/2016 *Isogenies*
Seminar 'Good reduction of Abelian Varieties', University of Amsterdam
23/06/2014 *Concurrent exceptional curves on del Pezzo surfaces of degree one*
ALGANT master theses defense, Leiden University

Schools, seminars, conferences

- September 2020 Modern Breakthroughs in Diophantine Problems (Online), Banff, Canada
18-19 April 2020 Western Algebraic Geometry Online, virtual edition of WAGS
March 2020 Arizona Winter School on Nonabelian Chabauty, University of Arizona
August 2019 Women in Numbers Europe 3, Rennes, France
April-June 2019 Trimester: À la redécouverte des points rationnels, Institut Henri Poincaré, Paris
2018/2019 Algebraic Statistics Seminar, Leiden University (**co-organizer**)
July 2018 Homotopy Theory and Arithmetic Geometry: Motivic and Diophantine Aspects,
Imperial College London
July 2018 Rational Points on Schiermonnikoog, The Netherlands
June 2018 Géométrie Algébrique en Liberté (GAeL XXVI), University of Strasbourg
Spring 2018 Tropical Geometry (**co-organizer**), Leiden University
Nov 2017 Algebraic Geometry with Fancy Coefficients, Université de Caen Normandie
Oct 2017 Autumn school: Topics in arithmetic and algebraic geometry, University of Mainz
Sept 2017 Diophantine problems (DIOP), University of Manchester
Fall 2017 Neron models, Leiden University
July 2017 XXX-èmes Journées Arithmétiques, Université de Caen Normandie
15/05/2017 Getaltheorie in het vlakke land / Arithmetique en plat pays, University of Leuven
Spring 2017 Obstructions to local-global principles (**co-organizer**), Leiden University
31/01/2017 Mini-workshop on arithmetic and moduli of K3 surfaces, University of Amsterdam
09/12/2016 11th Belgian-Dutch Algebraic Geometry Day
Fall 2016 Good reduction of Abelian Varieties, University of Amsterdam

5-6 Feb 2016

Nationale Wiskunde Dagen 2016

Ongoing

Nonlinear Algebra Seminar, MPI MiS Leipzig

Ongoing

DIAMANT symposium, twice a year, The Netherlands

2016 - 2020

Algebra, geometry and number theory seminar, Leiden University

Intercity Seminar, several universities in The Netherlands

Dutch Mathematical Congress (NMC), yearly event in The Netherlands

PhD colloquium, Leiden University (**co-organizer**)

Organized events

- **Seminars** at Leiden University:
 - Obstructions to local-global principles (Spring 2017)
 - Tropical Geometry (Spring 2018)
 - Algebraic Statistics Seminar (Fall 2018 – Spring 2019)
 - PhD Colloquium (ongoing, since fall 2016).
- **Workshop** *Show your worth: bluffing without a blush*, for the European Women in Mathematics - Netherlands network, November 2018.
- Second round of the **Nederlandse Wiskunde Olympiade** (2017 – 2019), annual Dutch mathematics competition for high school students, hosted at Leiden University.

Skills

Languages:

Dutch (first language), **English** (fluent), **Italian** (intermediate), **French** (basic)

Software:

Magma, Sage