Mathematics Institute
University of Warwick

Damiano Testa

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Email: d.testa@...
GitHub: adomani

Personal

Biographical
Born September 18, 1978 in Rome – Italian citizen

Interests
Algebraic geometry, number theory, formalization of mathematics

Education

PhD. in Matematics, Advisor: Prof. Aise Johan de Jong — 2005
Massachusetts Institute of Technology

Laurea di Dottore in Matematica con lode, Advisor: Prof. Corrado de Concini — 2001
Università di Roma "La Sapienza"

Positions

Reader — 2024-present
University of Warwick

Associate Professor — 2013-2024
University of Warwick

Assistant Professor — 2011-2013
University of Warwick

Postdoctoral research assistant — 2008-11
University of Oxford

Postdoctoral Fellow — 2007-08
International University Bremen

Assegno di Ricerca — 2006-07
Università di Roma "La Sapienza"

Visiting Assistant Professor — 2005-06
Cornell University

PhD student — 2001-05
Massachusetts Institute of Technology

Awards

Bridging proof and computation ($568,534) — July 2025-27
AI For Math Fund award

External contractor — March 2025-present
Harmonic

Pesquisador visitante at UFF, Rio de Janeiro — March-June 2015
CNPq Fellowship

Moduli Spaces and Rational Points — 2013-15
EPSRC First grant scheme

Non-stipendiary Junior Research Fellow — 2008-11
New College, Oxford

Charles and Holly Housman Award for Excellence in Teaching — 2005
Massachusetts Institute of Technology

Mentor for Research Summer Institute — Summer 2005
Massachusetts Institute of Technology

MIT Presidential Fellowship — Summer 2001-02
Massachusetts Institute of Technology

Publications

[1] A. Baanen, M. R. Ballard, J. Commelin, B. G.-g. Chen, M. Rothgang, and D. Testa, "Growing mathlib: Maintenance of a large scale mathematical library", in *Intelligent Computer Mathematics*, V. de Paiva and P. Koepke, Eds., 2026, pp. 51–70. eprint: arXiv:2508.21593.

[2] M. Ballard, A. Leykin, M. E. Stillman, D. Testa, D. A. Torrance, and J. Yang, "A Macaulay2-Lean interface for proofs in Lean", in *International Congress on Mathematical Software (ICMS 2026)*, 2026.

[3] M. Stoll and D. Testa, "The surface parametrizing cuboids", *Math. Comp.*, 2026. eprint: arXiv:1009.0388.

[4] M. Pacini and D. Testa, "Contact in algebraic and tropical geometry", *ZAG Handbook of Modern Algebraic Geometry*, 2025.

[5] D. Blackwell and D. Testa, "Factors of HOMFLY polynomials", *Ann. Univ. Ferrara Sez. VII Sci. Mat.*, vol. 70, no. 3, pp. 1155–1163, 2024, ISSN: 0430-3202,1827-1510.

[6] M. Pacini and D. Testa, "Complex and tropical counts via positive characteristic", *Expo. Math.*, vol. 40, no. 4, pp. 1096–1115, 2022, ISSN: 0723-0869,1878-0792.

[7] M. Pacini and D. Testa, "On a question of Dolgachev", *Math. Res. Lett.*, vol. 27, no. 1, pp. 281–299, 2020.

[8] M. Pacini and D. Testa, "Reconstructing general plane quartics from their inflection lines", *Trans. Amer. Math. Soc.*, vol. 372, no. 1, pp. 705–732, 2019.

[9] C. Ciliberto, A. L. Knutsen, J. Lesieutre, V. Lozovanu, R. Miranda, Y. Mustopa, and D. Testa, "A few questions about curves on surfaces", *Rend. Circ. Mat. Palermo (2)*, vol. 66, no. 2, pp. 195–204, 2017.

[10] F. Bogomolov, I. Cheltsov, F. Mangolte, C. Shramov, and D. Testa, "Spitsbergen volume", *Eur. J. Math.*, vol. 2, no. 1, pp. 1–8, 2016.

[11] E. V. Flynn and D. Testa, "Finite Weil restriction of curves", *Monatsh. Math.*, vol. 176, no. 2, pp. 197–218, 2015.

[12] B. Poonen, D. Testa, and R. van Luijk, "Computing Néron-Severi groups and cycle class groups", *Compos. Math.*, vol. 151, no. 4, pp. 713–734, 2015.

[13] M. Artebani, A. Laface, and D. Testa, "On Büchi's K3 surface", *Math. Z.*, vol. 278, no. 3-4, pp. 1113–1131, 2014.

[14] N. Bruin, E. V. Flynn, and D. Testa, "Descent via $(3,3)$-isogeny on Jacobians of genus 2 curves", *Acta Arith.*, vol. 165, no. 3, pp. 201–223, 2014.

[15] W. Castryck, M. Streng, and D. Testa, "Curves in characteristic 2 with non-trivial 2-torsion", *Adv. Math. Commun.*, vol. 8, no. 4, pp. 479–495, 2014.

[16] M. Pacini and D. Testa, "Plane quartics with at least 8 hyperinflection points", *Bull. Braz. Math. Soc. (N.S.)*, vol. 45, no. 4, pp. 819–836, 2014.

[17] C. Salgado, D. Testa, and A. Várilly-Alvarado, "On the unirationality of del Pezzo surfaces of degree 2", *J. Lond. Math. Soc. (2)*, vol. 90, no. 1, pp. 121–139, 2014.

[18] A. Laface and D. Testa, "Nef and semiample divisors on rational surfaces", in *Torsors, étale homotopy and applications to rational points*, ser. London Math. Soc. Lecture Note Ser. Vol. 405, Cambridge Univ. Press, Cambridge, 2013, pp. 429–446.

[19] M. Pacini and D. Testa, "Recovering plane curves of low degree from their inflection lines and inflection points", *Israel J. Math.*, vol. 195, no. 1, pp. 283–316, 2013.

[20] E. V. Flynn, D. Testa, and R. van Luijk, "Two-coverings of Jacobians of curves of genus 2", *Proc. Lond. Math. Soc. (3)*, vol. 104, no. 2, pp. 387–429, 2012.

[21] M. Marietti and D. Testa, "Conical and spherical graphs", *European J. Combin.*, vol. 33, no. 7, pp. 1606–1618, 2012.

[22] D. Testa, A. Várilly-Alvarado, and M. Velasco, "Big rational surfaces", *Math. Ann.*, vol. 351, no. 1, pp. 95–107, 2011.

[23] R. Heath-Brown and D. Testa, "Counting rational points on cubic curves", *Sci. China Math.*, vol. 53, no. 9, pp. 2259–2268, 2010.

[24] D. Testa, "The irreducibility of the spaces of rational curves on del Pezzo surfaces", *J. Algebraic Geom.*, vol. 18, no. 1, pp. 37–61, 2009.

[25] D. Testa, A. Várilly-Alvarado, and M. Velasco, "Cox rings of degree one del Pezzo surfaces", *Algebra Number Theory*, vol. 3, no. 7, pp. 729–761, 2009.

[26] M. Marietti and D. Testa, "A uniform approach to complexes arising from forests", *Electron. J. Combin.*, vol. 15, no. 1, Research Paper 101, 18, 2008.

[27] M. Marietti and D. Testa, "Cores of simplicial complexes", *Discrete Comput. Geom.*, vol. 40, no. 3, pp. 444–468, 2008.

[28] D. Testa, "Fano varieties in index one Fano complete intersections", *Math. Z.*, vol. 259, no. 1, pp. 61–64, 2008.

[29] M. Stillman, D. Testa, and M. Velasco, "Gröbner bases, monomial group actions, and the Cox rings of del Pezzo surfaces", *J. Algebra*, vol. 316, no. 2, pp. 777–801, 2007.

[30] D. Testa, *The Severi problem for rational curves on del Pezzo surfaces*. ProQuest LLC, Ann Arbor, MI, 2005, Thesis (Ph.D.)–Massachusetts Institute of Technology.

[31] D. Testa, "Varietà quiver e teoria delle rappresentazioni", *Master's thesis (italian)*, 2001.

Preprints

[32] D. Testa, 3×3 *singular matrices of linear forms*, 2017. eprint: arXiv:1701.06864.

[33] D. Testa, "Singular hyperplane sections of Fermat hypersurfaces", *preprint*, 2016.

[34] A. Laface and D. Testa, *On minimal rational elliptic surfaces*, 2015. eprint: arXiv:1502.00275.

[35] A. Brooke-Taylor and D. Testa, *The infinite random simplicial complex*, 2013. eprint: arXiv:1308.5517.

Books

[36] M. Bright, D. Testa, and R. van Luijk, *Geometry and Arithmetic of Surfaces*. 2026+, in preparation.

[37] A. J. de Jong, R. Beheshti, A. Ghitza, M. Lieblich, and D. Testa, *Elliptic Surfaces*. 2026+, in preparation.

Teaching

- **Warwick**
  - 2026-27, Term 1 – MA4N1 Theorem Proving with Lean
  - 2025-26, Term 1 – MA4N1 Theorem Proving with Lean
  - 2024-25, Term 1 – MA3H5 Manifolds
  - 2024-25, Term 1 – MA4N1 Theorem Proving with Lean
  - 2023-24, Term 1 – MA3H5 Manifolds
  - 2023-24, Term 1 – MA4N1 Theorem Proving with Lean
  - 2022-23, Term 1 – MA3H5 Manifolds
  - 2022-23, Term 1 – MA3J9 Historical Challenges in Mathematics
  - 2021-22, Term 2 – MA939 Applied Scheme Theory
  - 2021-22, Term 2 – MA3J9 Historical Challenges in Mathematics
  - 2020-21, Term 2 – MA939 Topics in Number Theory (Brauer-Manin obstruction)
  - 2020-21, Term 2 – MA3J9 Historical Challenges in Mathematics
  - 2019-20, Term 2 – MA3J9 Historical Challenges in Mathematics
  - 2019-20, Term 2 – MA426 Elliptic Curves
  - 2018-19, Term 2 – MA106 Linear Algebra
  - 2018-19, Term 2 – MA426 Elliptic Curves
  - 2017-18, Term 2 – MA106 Linear Algebra
  - 2017-18, Term 2 – MA426 Elliptic Curves
  - 2016-17, Term 2 – MA106 Linear Algebra
  - 2015-16, Term 2 – MA138 Sets and Numbers
  - 2014-15, Term 1 – MA1250 Introduction to Geometry
  - 2013-14, Term 1 – MA251 Algebra I
  - 2013-14, Term 1 – MA1250 Introduction to Geometry
  - 2012-13, Term 1 – MA132 Foundations
  - 2012-13, Term 3 – MA246 Number Theory
  - 2012-13, Term 1 – MA132 Foundations
  - 2011-12, Term 3 – MA246 Number Theory
  - 2011-12, Term 2 – MA106 Linear Algebra
- **Oxford**
  - 2011, Hillary Term – Part A Group Theory, New College Tutor
  - 2011, Hillary Term – Part C Elliptic Curves, Tutor
  - 2010, Michaelmas Term – Part C Algebraic Geometry, Tutor
  - 2010, Trinity Term – Part A Number Theory
  - 2010, Hillary Term – Part A Group Theory, New College Tutor
- **La Sapienza**
  - 2006, October-December – Algebra Lineare a Ingegneria Clinica, Tutor
- **Cornell**
  - 2006, Spring – 767 Algebraic Geometry: Algebraic Surfaces
  - 2006, Spring – 191 Calculus for Engineers
  - 2005, Fall – 192 Calculus for Engineers
- **MIT**

– 2005, Spring – 18.06 Linear Algebra, Course Administrator
– 2004, Summer – 18.03 Differential Equations
– 2004, Spring – 18.04 Complex Variables with Applications, Rec. Instr.
– 2003, Fall – 18.02 Multivariable Calculus, Rec. Instr.
– 2003, Summer – 18.03 Differential Equations
– 2003, Spring – 18.03 Differential Equations, Rec. Instr.
– 2002, Fall – 18.701 Algebra, Grader

- **Minicourses**
  - 2026, March 16-20, *The classification of finite simple groups*, workshop and general overview, Tsinghua University, Beijing, China.
  - 2023, December 11-15, *Minicorso Lean*, last week of *Laboratorio di formalizzazione di dimostrazioni matematiche tramite il software Lean*, Università Pisa, Italy.
  - 2023, May 2-6, *Atelier Lean*, minicourse during *The seventh mini symposium of the Roman Number Theory Association*, with Riccardo Brasca and Filippo Nuccio, Università Roma Tre, Italy.
  - 2021, August 16-20, *Superficies Racionales sobre un Cuerpo* online minicourse at *AGRA IV, two-week school in Arithmetic, Groups and Analysis*.
  - 2021, July (on hold), Universidad del Cauca in Popayán, Colombia: *CIMPA School "Isogenies of elliptic curves and their applications to cryptography"*.
  - 2019, July 22-26, Düsseldorf, Germany: *Arithmetic properties of del Pezzo surfaces*.
  - 2014, February 17-21, Rational points on varieties, Liberdade Em Geometria Algébrica LEGAL 2014, Teresópolis, Brazil.
  - 2014, January 30-February 6, Cox Rings of Rational Surfaces, minicourse at IMPA, Rio de Janeiro, Brazil.
  - 2014, January 14-21, Cox Rings of Rational Surfaces, minicourse at Universidad de Concepción, Chile.
  - 2013, January 5-15, *Rational points on surfaces*, minicourse at Universidad de Concepción, Chile.
  - 2008, April 14-18, Warwick, UK: *Instructional workshop on Surfaces: Geometry and Arithmetic*, with Martin Bright and Ronald van Luijk.
- **Organized conferences**
  - *Mathematics in Lean* session at ICMS 2026, with Matthew Ballard and Rémy Degenne, Waterloo, Canada, 20-23 July 2026.
  - *Frontiers of rationality*, with Ivan Cheltsov, Frédéric Mangolte, Constantin Shramov, Longyearbyen, Spitsbergen 14-18 July 2014.
  - *Edge days*, with Ivan Cheltsov, Edinburgh 6-8 June 2014.
  - *Rational Points-Geometric, Analytic and Explicit Approaches*, with Roger Heath-Brown, John Cremona, Samir Siksek, Michael Stoll, Warwick, 27-31 May, 2013.
- **Service**
  - Mathlib maintainer, 2024-present
  - Exam Secretary, 2019-present
  - Warwick University Open Days presentations, 2011-present
  - Chair of the Athena Swan Committee, 2015
  - Warwick in Africa, Masterclasses, Agona and Accra, Ghana, July 2015
  - Member of the Athena Swan Committee, 2014
  - Warwick in Africa, Masterclasses, Thohoyandou, South Africa, August 2014
  - New College admissions for the year 2010-11
  - Team leader for Jacobs University at the 16th IMC, Budapest, Hungary 2009
  - Team leader for Jacobs University at the 15th IMC, Blagoevgrad, Bulgaria 2008

- Organizer of the GAeL XVI conference in Aranjuez, Spain, 2008
- Organizer of the GAeL XV conference in Istanbul, Turkey, 2007
- Referee for IMRN, Advances in Mathematics, Discrete Mathematics, Enseignement Mathématique, Journal of Algebra, LMS Journal of Computation and Mathematics, ANT, Mathematische Zeitschrift
- Reviewer for Mathematical Reviews
- Organizer of Commutative Algebra and Algebraic Geometry Seminar, Cornell 2005-06
- Organizer of BAGS: student seminar in algebraic geometry in 2002-03 and 2004- 05
- Mentor for two students at RSI: Summer 2002

Students

PhD Students

- **Current**
  - 2023-present, Arnaud Vilpert, Warwick.
  - 2023-present, Tommaso Faustini, Warwick.
- **Past**
  - 2021-25, Álvaro González Hernández, co-supervised with Gavin Brown, Warwick.
  - 2023-25, Ben Moore, co-supervised with Minhyong Kim, Warwick.
  - 2020-24, Elvira Lupoian, co-supervised with Samir Siksek, Warwick.
  - 2019-23, Philippe Michaud-Rodgers, co-supervised with Samir Siksek, Warwick.
  - 2019-23, Steven Groen, Warwick.
  - 2018-20, Jorge Mendoza, Warwick.
  - 2014-20, Francesco Broggi, Warwick.
  - 2012-16, Ian Vincent, Warwick.
  - 2012-16, Florian Bouyer, Warwick.
  - 2008-12, Frank Gounelas, co-supervised with Victor Flynn, Oxford.

Research project supervised

- 2025-26, Jia Chen, *Formalization and Graph theory*, MSc project.
- 2025-26, Agnes Mullen, *The cuboid problem*, URSS project (declined).
- 2024-25, Pier Giorgio Peroni, *Quartic surfaces*, MSc project.
- 2024-25, Ivan Yahorynkau, *Immersions of manifolds in* $\mathbb{R}^n$, 3rd year project.
- 2023-24, Gareth Ma, *Formalizations in Lean*, 3rd year project.
- 2023-24, Hugo Pottinger, *Explorations in algebraic geometry using Julia*, 4th year project.
- 2022-23, Lucie Gatzmaga, *The Modular Approach to the Generalised Fermat Equation*, 3rd year project.
- 2021-22, AJ Fong, *Points at rational distances from the vertices of a rectangle*, 4th year project.
- 2021-22, Sam Gue, *Rational derived polynomials*, 4th year project.
- 2021, Paul Lezeau, *Proving Dedekind's Theorem in Lean*, URSS project.
- 2020-21, Elizabeth Haycox, *Elliptic Curves and Hilbert's Tenth Problem*, 4th year project.
- 2020-21, Ricardo Antunes Ferreira, *The Hasse-Minkowski Theorem*, 3rd year project.
- 2018-19, Philippe Michaud-Rodgers, *Magic Squares of Squares*, 4th year project.
- 2018-19, Rebecca Myers, *Inflection Points of Quartic Plane Curves over Field of Characteristic 3*, 4th year project.
- 2017-18, Douglas Blackwell, *Algebraic Properties of Knot Polynomials*, 4th year project.
- 2015, Thomas Colclough, *Hilbert's 3rd problem in 3 dimensions*, URSS project.
- 2013, Robin Bartlett, *Curves and Galois Groups*, URSS project.
- 2012, Rory Potter, *Big Rational Surfaces*, URSS project.

Talks and conferences

- 2025, December 9-12, *Metaprogramming in Lean*, Bridging Formal Mathematics and AI, ItaLean 2025, Bologna, Italy.
- 2025, November 19, *Bridging proof and computation*, Maths Week Parliamentary Expo, House of Commons, London.
- 2025, November 4, *The Tactic Analysis Framework*, study group on Lean, Imperial.
- 2025, June 17, *Specialisation and generalisation*, Algebraic Geometry learning seminar, Warwick.
- 2025, January 14, *An introduction to linters*, Lean Together 2025, online workshop, slides.
- 2024, June 24-28, *Formalising algebraic geometry*, AIM online workshop.
- 2023, December 13, *Mathematics, automation, theorem proving*, Colloquium, Pisa, Italy, slides.
- 2023, November 14, *Mathematics, automation, theorem proving*, Warwick Maths Society, slides.
- 2023, September 7, *Algebraic Geometry in Lean*, Lean for the Curious Mathematician 2023, Düsseldorf, slides.
- 2021, November 29, *Lines of polynomials with Galois group* $\mathfrak{A}_{2n}$, Greek Algebra & Number Theory seminar, online.
- 2021, November 22, $\overline{M}_{0,134}$ *is not a Mori Dream Space*, Warwick $\overline{M}_{0,n}$ seminar, online.
- 2021, January 7, *Mathematical insights from using Lean*, Lean Together 2021, online.
- 2020, December 8, *Computers and Mathematics*, Warwick Maths Society, online.
- 2020, October 7, *Contact in algebraic and tropical geometry*, BRAG, Rio de Janeiro, Brasil.
- 2020, March 31, *Contact in algebraic and tropical geometry*, dematerialized session of "Algèbre et Géométrie", Versailles, France.
- 2019, July 22-26, *Arithmetic properties of del Pezzo surfaces*, Düsseldorf, Germany
- 2018, November 30, *A self-map on the space of plane quartics*, Rennes, France.
- 2018, May 16, *Plane Quartics and their Inflection Lines*, COW Seminar, Cardiff University, UK.
- 2018, May 15, *Plane quartics and their inflection lines*, Algebraic Geometry Seminar, Sheffield University, UK.
- 2017, November 15-17, *Plane quartics and their inflection lines*, Conference Rational points and Zariski density, Copenhagen, Denmark.
- 2017, July 14, *Singular plane sections of Fermat surfaces and roots of unity*, GLEN Seminar, Manchester, UK.
- 2016, November 10, *Lines in algebraic geometry*, Colloquium, IMPA, Rio de Janeiro, Brasil.
- 2015, October 21, *Geometric influences on arithmetic problems*, Colloquium, Sheffield University, UK.
- 2015, June 1-12, *K3 surfaces arising from arithmetic problems*, II ELGA, Cabo Frío, Rio de Janeiro, Brasil.

– 2015, May 5-7, *Two lectures on rational points*, IMPA, Rio de Janeiro, Brasil.

– 2015, March 27-June 13, *Special Thematic Program on Algebraic Geometry*, IMPA, Rio de Janeiro, Brasil.

– 2015, February 9-13, *Conference "Recent advances in Linear series and Newton-Okounkov bodies"*, Università degli studi di Padova, Padova, Italy.

– 2015, February 5-6, *K3 surfaces arising from arithmetic problems*, Conference "Geometria in Bicocca 2015", Università di Milano-Bicocca, Milano, Italy.

– 2014, December 10, *K3 surfaces arising from arithmetic problems*, Algebraic geometry seminar, Humboldt University, Berlin, Germany.

– 2014, November 10-14, *K3 surfaces arising from arithmetic problems*, Conference "K3, Enriques Surfaces and Related Topics", Nagoya University, Nagoya, Japan.

– 2014, November 6, *K3 surfaces arising from arithmetic problems*, COW Seminar, Andrew Wiles Building, Oxford, UK.

– 2014, October 15, *The Büchi K3 surface and its rational points*, Number theory and geometry seminar, University of Nottingham, Nottingham, UK.

– 2014, September 8-9, *The Büchi K3 surface and its rational points*, Workshop Fibrations on algebraic varieties and related topics, Università di Milano, Milano, Italy.

– 2014, June 6-8, *Certain rational elliptic fibrations and their exceptional curves*, Edge Days, Edinburgh University, UK.

– 2014, May 12-16, *Special hyperplane sections of Fermat hypersurfaces and sums of roots of unity*, Workshop Rational and integral points on higher-dimensional varieties, AIM, Palo Alto, USA.

– 2014, April 30, *The Büchi K3 surface and its rational points*, UGA, Athens, USA.

– 2014, April 4-6, *The Büchi K3 surface and its rational points*, Texas Algebraic Geometry Symposium, Rice University, USA.

– 2014, February 17-21, *Rational points on varieties*, Liberdade Em Geometria Algébrica LEGAL 2014, Teresópolis, Brazil.

– 2014, February 14, *Moduli spaces and rational points*, Colloquium, Universidad de los Andes, Bogotá, Colombia.

– 2014, January 30-February 6, *Cox Rings of Rational Surfaces*, minicourse at IMPA, Rio de Janeiro, Brazil.

– 2014, January 28, *Singular plane sections of Fermat surfaces and roots of unity*, UFF Singularity Workshop, UFF, Niterói, Brazil.

– 2014, January 14-21, *Cox Rings of Rational Surfaces*, minicourse at Universidad de Concepción, Chile.

– 2014, January 6-10, *Cox rings of rational surfaces*, Workshop CARP: Collaborations Around Rational Points, Bellairs Research Institute, Holetown, Barbados.

– 2013, December 18, *Curve di genere due con un'involuzione non iperellittica*, Università di Ferrara, Italy.

– 2013, December 11-13, *Unirationality of certain del Pezzo surfaces of degree two*, Algebraic and Arithmetic Geometry - "Birpol6", Basel, Switzerland.

– 2013, November 14, *Blow ups of* $\mathbb{P}^3$ *along lines*, Linfoot Seminar, University of Bristol, UK.

– 2013, September 23-27, *Cox rings of rational surfaces*, Workshop on Okounkov bodies and Nagata-type Conjectures, IMPANGA, Warsaw, Poland.

– 2013, June 20, *The Büchi K3 surface and its rational points*, during the Program on Rational Points, Rational Curves and Entire Holomorphic Curves on Projective Varieties, CRM, Montréal, Québec.

– 2013, June 6-9, *Reconstructing plane quartics with many undulations from their inflection lines*, Edge Days 2013, Edinburgh, UK.

– 2013, June 3-4, *Computability of Néron-Severi groups*, London-Paris Number Theory Seminar, Imperial College, London.

– 2013, March 20, *The Büchi K3 surface and its rational points*, London Number Theory Seminar, UCL, London.

– 2013, March 11-15, *The surface of cuboids and Siegel modular threefolds*, Conference "Nouvelles directions en arithmétique et géométrie des surfaces algébriques ", Luminy, France.

– 2013, January 5-15, *Minicourse on Rational points on surfaces*, Concepción, Chile.

– 2012, October 29, *Dihedral configurations in* $\mathbb{P}^1$, Algebra Seminar, UFRJ, Rio de Janeiro, Brasil.

– 2012, October 26, *The Büchi K3 surface and its rational points*, Colóquio de Geometria e Aritmética, Rio de Janeiro, Brasil.

– 2012, July 2-7, *The Büchi K3 surface and its rational points*, Durham Symposium on "Interactions of birational geometry with other fields", Durham, UK.

– 2012, June 11-17, *Unirationality of certain del Pezzo surfaces of degree two*, Workshop on Essential Dimension and Cremona Groups, Chern Institute of Mathematics, Tianjin, China.

– 2012, April 23-27, *Plane cubics and their flex lines*, Conference on Birational and Affine Geometry, Steklov Mathematical Institute, Moscow, Russia.

– 2011, December 2, *Surfaces rationnelles avec diviseur anticanonique pseudo-effectif* , Université de Toulouse, France.

– 2011, October, *Conics on the Fermat quintic threefold*, IMPA, Rio de Janeiro, Brasil.

– 2011, October, *Plane cubics and their flex lines*, Universidade Federal Fluminense, Niterói, Brasil.

– 2011, October, *The surface of cuboids and Siegel modular threefolds*, 11th ALGA, Maresias, Brasil.

– 2011, July 18-29, assistant for the Summer Graduate Workshop on Toric Varieties, Cortona, Italy.

– 2011, July, *The surface of cuboids and Siegel modular threefolds*, Sino-French Summer Institute 2011 in Arithmetic Geometry, Chern Institute of Mathematics, Tianjin, China.

– 2011, May, *The surface of cuboids and Siegel modular threefolds*, Cambridge University, Cambridge, UK.

– 2011, March, *Conics on the Fermat quintic threefold*, Irish Algebraic Geometry Seminar, University College Cork, Cork, Ireland.

– 2011, January 10-14, Workshop on Torsors: theory and applications, ICMS, Edinburgh, UK.

– 2010, December, *Rational surfaces with pseudo-effective anticanonical divisor*, V Iberoamerican Congress on Geometry, Pucón, Chile.

– 2010, October, *Unirationality of certain del Pezzo surfaces of degree two*, Arithmetic of Surfaces, Lorentz Center, Leiden, The Netherlands.

– 2010, September, *Conics on the Fermat quintic threefold*, Mathematics Colloquium, Rice University, USA.

– 2010, September, *The Picard group of the space of perfect cuboids*, Rice University, USA.

– 2010, May, *Relative Weil restriction*, ETH Zürich, Switzerland.

– 2010, April, *Intersection of two cubics and a conjecture of Artin*, BMC 2010, Edinburgh, UK.

– 2010, March, *Cox rings of del Pezzo surfaces*, Warwick University, UK.

– 2009, November, *Grosses surfaces rationnelles*, Séminaire "Variétés rationnelles", ENS, Paris, France.

– 2009, September, *Intersections of two quadrics in* $\mathbb{P}^5$, Bristol University, UK.

– 2009, March-June, *Big rational surfaces*, at Bristol, Cambridge, Columbia, Oxford, Warwick.

– 2009, February, *Linear subspaces in the intersection of two quadrics*, Cambridge University, UK.

– 2008, June, *The Rational Box Problem*, at the "Workshop on Rational Points on Curves and Higher Dimensional Varieties", Warwick University, UK.

– 2008, April 14-18, *Instructional Workshop on Surfaces: Geometry and Arithmetic*, with Martin Bright and Ronald van Luijk, 2007-2008 Warwick EPSRC Symposium on Algebraic Geometry, UK.

– 2008, November 30-December 5, Workshop Arithmetic of K3 Surfaces, BIRS, Banff, Canada.

– 2008, January, *Connectedness of mapping spaces to del Pezzo surfaces*, Giornate Genovesi II, Università di Genova, Italy.

– 2007, December, *Rationally connected varieties and unirational varieties*, Max Planck Institut für Mathematik, Bonn, Germany.

– 2007, October, *Rationally Connected Varieties*, Mathematics Colloquium, Jacobs University Bremen, Germany.

– 2007, September, *Rationally Connected Varieties*, Workshop of young researchers, Universidad Complutense de Madrid, Spain.

– 2007, July, *Arithmetic of del Pezzo Surfaces*, Rational Points Workshop, Jacobs University Bremen, Germany.

– 2007, June, *Rationally connected varieties and unirational varieties*, joint Bremen-Göttingen-Hannover Seminar, Leibniz Universität Hannover, Germany.

– 2007, March, *Cores of simplicial complexes*, 58ème Séminaire Lotharingien, Lyon, France.

– 2007, January, *Varietà unirazionali e varietà razionalmente connesse*, Scuola Normale Superiore, Pisa, Italy.

– 2006, November, *Rationally connected varieties and spaces of rational curves*, Université de Provence Aix-Marseille, France.

– 2006, March, *Cox rings and del Pezzo surfaces*, GAeL conference, Będlewo, Poland.

– 2006, March, *The Brauer group of* $\mathbb{Q}_p$, Commutative Algebra and Algebraic Geometry Seminar, Cornell, USA.

– 2006, February, *Rational curves on the quintic threefold*, Lie Groups Seminar, Cornell, USA.

– 2006, January 11: *Anelli di Cox e superficie di del Pezzo*, Università di Roma "La Sapienza," Italy.

– 2005, October 15, *Spaces of rational curves on del Pezzo surfaces*, Route 81 conference, Queen's University, Canada.

– 2005, September, *Rationally connected varieties - examples, really!* and *Irreducibility of some mapping spaces*, series of talks at Cornell, USA.

– 2005, June 10, *Il problema di Severi per curve razionali su superficie di del Pezzo*, Università di Roma II "Tor Vergata", Italy.

– 2005, January-March, *The Severi Problem for Rational Curves on del Pezzo Surfaces*, Brown, UPenn, Harvard, Brandeis, Columbia, USA.

– 2004, June 7, *Spazi di Mappe Stabili*, Università di Roma II "Tor Vergata", Italy.

– 2001-2004: Several talks in graduate student seminars at MIT, including *The h-cobordism theorem*, *The Banach-Tarski Paradox*, *Quotients of varieties by reductive groups*, USA.