

Damiano Testa

Mathematical Institute
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Interests: Algebraic geometry, number theory.

Personal data: Born September 18, 1978 in Rome. Italian citizenship.

Education:

Massachusetts Institute of Technology Ph.D. in Mathematics, 2005.

Advisor: Prof. Aise Johan de Jong.

Università di Roma “La Sapienza” Laurea di Dottore in Matematica con lode, 2001.

Advisor: Prof. Corrado de Concini.

Positions:

One-Year Stipendiary Lectureship in Pure Mathematics, 2011-12.

Postdoctoral research assistant at University of Oxford, 2008-11.

Postdoctoral Fellow at International University Bremen, 2007-08.

Università di Roma “La Sapienza”, Assegno di Ricerca 2006-07

Cornell University, Visiting Assistant Professor, 2005-06

Massachusetts Institute of Technology, PhD student, 2001-2005.

Preprints and Publications:

1. M. Stoll, D. Testa; *The surface parametrizing cuboids*; preprint, arXiv:1009.0388v1.
2. D. R. Heath-Brown, D. Testa; *Counting Rational Points on Cubic Curves*; Science China, Series A: Mathematics, special issue dedicated to Prof. Wang Yuan, Vol. 3, no. 9, September 2010, 2173–2572.
3. E. V. Flynn, D. Testa, R. van Luijk; *Two-coverings of Jacobians of curves of genus two*; arXiv:0905.1242v1 (submitted).
4. D. Testa, A. Várilly-Alvarado, M. Velasco; *Big rational surfaces*; to appear in Math. Ann.
5. M. Bright, D. Testa, R. van Luijk; *Arithmetic and Geometry of Surfaces*; book (in progress).
6. D. Testa, A. Várilly-Alvarado, M. Velasco; *Cox rings of degree one del Pezzo surfaces*; Algebra and Number Theory Vol. 3 (2009), No. 7, 729–761.
7. D. Testa; *The irreducibility of the spaces of rational curves on del Pezzo surfaces*; J. Algebraic Geom. 18 (2009), no. 1, 37–61.
8. D. Testa; *Fano varieties in index one Fano complete intersections*; Math. Z. 259 (2008), no. 1, 61–64.
9. M. Stillman, D. Testa, M. Velasco; *Gröbner bases, monomial group actions, and the Cox rings of del Pezzo surfaces*; J. Algebra 316 (2007), no. 2, 777–801.

10. M. Marietti, D. Testa; *Cores of simplicial complexes*; Discrete Comput. Geom. 40 (2008), no. 3, 444–468.
11. M. Marietti, D. Testa; *A uniform approach to complexes arising from forests*; Electron. J. Combin. 15 (2008), no. 1, Research Paper 101, 18 pp.
12. D. Testa; *The Severi Problem for Rational Curves on del Pezzo Surfaces*; PhD thesis, MIT, advisor Prof. A. J. de Jong, math.AG/0609355.
13. A. J. de Jong, R. Beheshti, A. Ghitza, M. Lieblich, D. Testa; *Elliptic Surfaces*; book (in progress).
14. D. Testa; *Varietà quiver e teoria delle rappresentazioni*; Master's thesis (italian).

Awards:

Non-sipendiary Junior Research Fellow at New College, Oxford, 2008-2011.

Charles and Holly Housman Award for Excellence in Teaching, 2005.

Mentor for Research Summer Institute, summer 2002.

2001-2002 MIT Presidential Fellowship.

Talks:

December 2010: “Rational surfaces with pseudo-effective anticanonical divisor”, V Iberoamerican Congress on Geometry, Chile.

October 2010: “Unirationality of certain del Pezzo surfaces of degree two”, Arithmetic of Surfaces, Lorentz Center, Leiden, NL.

September 2010: “Conics on the Fermat quintic threefold”, Mathematics Colloquium, Rice University.

September 2010: “The Picard group of the space of perfect cuboids”, Rice University.

May 2010: “Relative Weil restriction”, ETH Zürich.

April 2010: “Intersection of two cubics and a conjecture of Artin”, BMC 2010, Edinburgh.

March 2010: “Cox rings of del Pezzo surfaces”, Warwick University.

November 2009: “Grosses surfaces rationnelles”, Séminaire “Variétés rationnelles”, ENS, Paris.

September 2009: “Intersections of two quadrics in P^5 ”, Bristol University.

March-June 2009: “Big rational surfaces” at Bristol, Cambridge, Columbia, Oxford, Warwick.

February 2009: “Linear subspaces in the intersection of two quadrics”, Cambridge University.

June 2008: “The Rational Box Problem” at the “Workshop on Rational Points on Curves and Higher Dimensional Varieties”, Warwick University.

April 2008: instructor at the “Instructional Workshop on Surfaces: Geometry and Arithmetic”, 2007-2008 Warwick EPSRC Symposium on Algebraic Geometry.

January 2008: “Connectedness of mapping spaces to del Pezzo surfaces”, Giornate Genovesi II, Università di Genova.

December 2007: “Rationally connected varieties and unirational varieties”, Max Planck Institut

für Mathematik, Bonn.

October 2007: “Rationally Connected Varieties”, Mathematics Colloquium, Jacobs University Bremen.

September 2007: “Rationally Connected Varieties”, Workshop of young researchers, Universidad Complutense de Madrid.

July 2007: “Arithmetic of del Pezzo Surfaces”, Rational Points Workshop, Jacobs University Bremen.

June 2007: “Rationally connected varieties and unirational varieties”, joint Bremen-Göttingen-Hannover Seminar, Leibniz Universität Hannover.

March 2007: “Cores of simplicial complexes”, 58ème Séminaire Lotharingien, Lyon.

January 2007: “Varietà unirazionali e varietà razionalmente connesse”, Scuola Normale Superiore, Pisa.

November 2006: “Rationally connected varieties and spaces of rational curves”, Université de Provence Aix-Marseille, France.

March 2006: “Cox rings and del Pezzo surfaces”, GAEL conference, Będlewo, Poland.

September 2005: “Rationally Connected Varieties”, series of talks at Cornell.

June 10 2005: “Il problema di Severi per curve razionali su superficie di del Pezzo”, Università di Roma II “Tor Vergata”.

January-March 2005: “The Severi Problem for Rational Curves on del Pezzo Surfaces”, Brown, UPenn, Harvard, Brandeis, Columbia.

June 7 2004: “Spazi di Mappe Stabili”, Università di Roma II “Tor Vergata”.

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”.

Teaching Experience:

Oxford:

New College Tutor for “Part A Group Theory” – Hillary Term 2011.

Tutor for “Part C Elliptic Curves” – Hillary Term 2011.

Tutor for “Part C Algebraic Geometry” – Michaelmas Term 2010.

Taught “Part A Number Theory” – Trinity Term 2010.

New College Tutor for “Part A Group Theory” – Hillary Term 2010.

La Sapienza:

Tutor di “Algebra Lineare” a Ingegneria Clinica, October-December 2006.

Cornell:

Taught “Algebraic Geometry: Algebraic Surfaces” 767 – Spring 2006.

Taught “Calculus for Engineers” 191 – Spring 2006.

Taught “Calculus for Engineers” 192 – Fall 2005.

MIT:

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

Service:

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, Discrete Mathematics, Enseignement Mathematique, Journal of Algebra, LMS Journal of Computation and Mathematics, ANT.
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 RSI: Summer 2002.