

Curriculum Vitae

Personal Data

Name: Elena Martinengo
Place and Date of Birth: Turin (Italy), October 25th, 1981
Citizenship: Italian
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Spoken Languages: Italian (mother language)
English (C1), German (C1), French (B1).

Education

- Diploma di Maturità Scientifica (High School Degree), at Liceo Scientifico “A. Volta” in Turin, in July 2000, final mark 100/100 cum laude.
- Degree in Mathematics, at University of Turin, in September 2004, thesis on “Teoria geometrica della funzione Theta di Riemann”, advisor Prof. Alberto Albano, final mark 110/110 cum laude.
- PhD degree, at University “La Sapienza”, in Rome, in January 2009, thesis on “Moduli space of vector bundles and higher brackets”, advisor Prof. Marco Manetti, final mark Optimum.

Positions and Fellowships

- since December 2016: Researcher (Ricercatore a tempo determinato di tipo B) at the Department of Mathematics of the University of Turin.
- September 2014 - November 2016: Post Doc position (Wissenschaftliche Mitarbeiterin) at “Leibniz Universität”, Hannover.
- September 2010 - August 2014: Post Doc position (Wissenschaftliche Mitarbeiterin) at “Freie Universität”, Berlin.
- May 2009 - April 2010: Owner of a Reserch Grant in Deformation Theory at University “La Sapienza”, Rome.
- November 2004 - December 2008: PhD student in Mathematics at University “La Sapienza”, Rome.
- March 2007: Visitor at International School of Advanced Studies (ISAS), Trieste.
- October 2000 - September 2004: Undergraduate student in Mathematics at University of Turin.

- October 2001- September 2004: Winner of a scholarship granted by Istituto Nazionale di Alta Matematica “F. Severi” INdAM (National Institute of High Mathematics) to undergraduate students in Mathematics.

Research Interests

My first research interests lie on deformation theory. Besides classical deformation and moduli theory, I studied the differential graded Lie algebras (dglas) and L_∞ -algebras approaches to deformations. I am also interested in stacks theory and derived algebraic geometry. In the last years I have been studying toric geometry and its generalizations to T -varieties and Mori dream spaces.

Conference Talks

- “Local structure of the Brill-Noether stratification of the moduli space of flat and stable bundles”, Congress “Progressi recenti in geometria reale e complessa” (“Recent developments in real and complex geometry”), Levico Terme, Trento (Italy), 20th October 2008;

- “Infinitesimal deformations of Hitchin pairs and Hitchin map”, Workshop “Giornate di Geometria Algebrica e argomenti correlati” (“Algebraic Geometry and linked topics days”), Gargnano del Garda, Brescia (Italy), 25th – 29th May 2010; Conference Géométrie Algébrique en Liberté, Coimbra (Portugal), 7th – 11th June 2010.

- “A new perspective on deformations of complex manifolds”, North German Algebraic Geometry Seminar, “Carl von Ossietzky” Universität, Oldenburg (Germany), 19th November, 2010; “Christmas Workshop” at Dipartimento di Matematica “F. Enriques”, Milano (Italia), 17th December, 2010.

- “Local structure of the moduli space of sheaves on K3 surfaces”, Workshop “Noncommutative Geometry and Higher Structures” at Dipartimento di Matematica “Sapienza”, Università di Roma, 1st September, 2015.

Selected Invited Seminars

- “Differential graded Lie algebras and deformations of bundles” and “Deformation functor associated to a morfism of differential graded Lie algebras”, Algebraic Geometry Seminar at International School for Advanced Studies (ISAS), Trieste (Italy), 13th and 20th March 2007.

- “Deformation theory via differential graded lie algebras: deformations of a complex manifold, of a holomorphic fibre bundle and of a pair (manifold, bundle) I-II.” PhD Students Seminar at University of “RomaTre”, Rome (Italy), 15th May 2008.

- “Local structure of the Brill-Noether stratification of the moduli space of flat and stable bundles”, Algebraic Geometry Seminar at University of Torino (Italy), 11th November 2009; Algebraic Geometry Seminar at University of Trento (Italy), 26th November 2009.

- “An overview on deformation theory: from classical techniques to infinity groupoids”, Algebraic Geometry Seminar at Freie Universität, Berlin, 19th May 2010.

- “Infinitesimal deformations of Hitchin pairs and Hitchin map”, Algebraic Geometry Seminar at University of RomaTre, Roma (Italy), 29th April 2010.

- “Mori Dream stacks”, Dipartimento di Matematica dell’Università di Torino, 25th September 2013.

- “Intrinsic normal cone and obstructions”, Department of Mathematics, University of Stavanger, Norway, 13th, 14th March 2014.
- “Maps of Mori dream spaces in Cox coordinates”, Dipartimento di Matematica dell’Università di Torino, 24th September 2014.
- “Mori Dream stacks”, Algebraic Geometry Seminar at Freie Universität Berlin, 12th January 2015.
- “Local structure of the moduli space of sheaves on K3 surfaces”, Algebra and Geometry Seminar at University “La Sapienza”, Rome, 15th April 2015.
- “Mori Dream Stacks”, IMPANGA Seminar, Warsaw, 15th May 2015.

Articles

- D. Fiorenza, M. Manetti, E. Martinengo, “Cosimplicial DGLAs in deformation theory”. Communications in Algebra, Vol. 40, No.6 (2012). Preprint [arXiv:0803.0399](#).
- E. Martinengo, “Local structure of Brill-Noether strata in the moduli space of flat stable bundles”. Rend. Sem. Mat. Univ. Padova, Vol. 121, (2009). Preprint [arXiv:0806.2056](#).
- D. Fiorenza, D. Iacono, E. Martinengo, “Differential graded Lie algebras controlling deformations of a coherent sheaf”. Journal of the European Mathematical Society, Vol. 14, No. 2 (2012). Preprint [arXiv:0904.1301](#).
- D. Fiorenza, E. Martinengo, “A short note on infinity-groupoids and the period map for projective manifolds”. Publications of the nLab vol. 2 No. 1 (2012). Preprint [arXiv:0911.3845](#).
- E. Martinengo, “Infinitesimal deformations of Hitchin pairs and Hitchin map”. International Journal of Mathematics. Vol. 23, No. 7 (2012). Preprint [arXiv:1003.5531](#).
- A. Hochenegger, E. Martinengo, “Mori Dream Stacks”. Mathematische Zeitschrift. Vol. 280, 3, (2015). Preprint: [arXiv:1403.7984](#).
- A. Hochenegger, E. Martinengo, “Maps of Mori dream stacks”. Preprint [arXiv:1605.06789](#)

Teaching

During my PhD and my research grant at University of Studies of Rome “La Sapienza”, I hold the problem sessions for the following courses:

- Analysis and Linear Algebra (Faculty of Biology), WS 05-06, 06-07, 07-08,
- Institutions of Mathematics (Faculty of Geology), WS 06-07, 09-10.
- Linear Algebra (Faculty of Mathematics), WS 07-08.
- Analytic Geometry (Faculty of Mathematics), WS 08 -09.
- Linear Algebra (Faculty of Statistic), WS 08-09, SS 09.

During my Post Doc position at Freie Universität in Berlin, I hold the problem sessions for the following courses at the Institute of Mathematics:

- Linear Algebra, WS 10-11, SS 11, WS 11-12 (in English, later in German).
- Algebraic Geometry, WS 11-12 (in English).
- Elementar Geometry, SS 12 (in German).
- Algebra and Number Theory, WS 12-13 (in German).

- Analysis I-II, WS 13-14, SS 14 (in German).

During my Post Doc position at Freie Universität in Berlin, I taught as co-holder for the course at the Institute of Mathematics:

- Computer Algebra, March 2012, March 2013, March 2014 (in German).

During my Post Doc position at Freie Universität in Berlin, I hold the following students seminars at the Institute of Mathematics:

- On Syzygies I-II, SS 13 (in German).

- Homological algebra, SS 14 (in German).

During my Post Doc position at Freie Universität in Berlin, I supervised some students thesis:

- Bachelor: Marwin Roth “Das Lösen polynomialer Gleichungen mit Hilfe von Gröbner Basen” (Solution of linear equations with Gröbner basis); Desiree Mandat “Fitting Ideale” (Fitting ideals).

- Master (co-supervisor with Klaus Altmann): David Müssig “Easy P-resolutions of quotient singularities”; Ana Maria Botero “Spherical varieties”.

During my Post Doc position at Leibniz Universität in Hannover, I hold the problem session for the course at the Institute of Mathematics:

- Algebra I (in German).

During my Post Doc position at Leibniz Universität in Hannover, I hold the following seminar for PhD students and PostDocs of the algebraic geometry group:

- On deformation theory, WS 14-15.

- On K3 surfaces and the moduli space of their sheaves, SS 15 (with Victor González and Christian Lehn).