Andrea Di Lorenzo

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Aarhus, Denmark
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Personal informations

Date of birth	22 November 1991
Place of birth	Rome
Nationality	Italian

Present position

Aug. 2019–	**Postdoc**, *Centre for Quantum Geometry of Moduli Spaces*, Aarhus University, Denmark.

Research interests

Integral Chow rings of moduli stacks

Equivariant intersection theory

Cohomological invariants of moduli stacks

Picard group of moduli of polarized K3 surfaces

Education

2015–2019	**Ph.D. in Mathematics**, *Scuola Normale Superiore*, Thesis title: "Integral Chow ring and cohomological invariants of stacks of hyperelliptic curves". Advisor: Angelo Vistoli, *cum laude*.
2013–2015	**Master degree in Mathematics**, *Sapienza University of Rome*, Thesis title: "The Schottky problem and minimal cohomology classes". Advisor: Enrico Arbarello, 110/110 *cum laude*.
2010–2013	**Bachelor degree in Mathematics**, *Sapienza University of Rome*, Thesis title: "The geometry of the moment map". Advisor: Paolo Piazza, 110/110 *cum laude*.
2005–2010	**High school diploma**, *Liceo classico "Orazio"*, Rome, 100/100 *cum laude*.

Publications and preprints

"Integral Picard group of the stack of quasi-polarized K3 surfaces of low degree", *arXiv:1910.08758*, 2019.

"Picard group of moduli of curves of low genus in positive characteristic", *arXiv:1812.01913*, (submitted), 2018.

"Cohomological invariants of the stack of hyperelliptic curves of odd genus", *arXiv:1804.02216*, (submitted), 2018.

"The Chow ring of the stack of hyperelliptic curves of odd genus", *International Mathematics Research Notices,, rnz101, https://doi.org/10.1093/imrn/rnz101*, 2019.

"On quantum and relativistic analogues in Mean-Field Spin models", *Proc. Royal Soc. A*, **470**:*20140589*, with A. Barra, F.Guerra, A.Moro.

Conference talks

"Intersection theory on moduli stacks", *"Giornate di Geometria Algebrica e Argomenti Correlati XV", Gargnano*, June 2020 (upcoming).

"The integral Chow ring of the stack of hyperelliptic curves of odd genus", *"GAeL XXVI", Strasbourg*, June 2018.

Seminar talks

"The Chow ring of the stack of stable curves of genus 2", *KTH, Stockholm*, 30 October 2019.

"Picard group of moduli of curves and K3 surfaces", *Aarhus University, Aarhus*, 9 October 2019.

"Picard group of moduli of curves and K3 surfaces", *University of Ferrara, Ferrara*, 4 October 2019.

"The integral Chow ring of stacks of hyperelliptic curves", *MSRI, Berkeley*, 28 February 2019.

"The integral Chow ring of moduli stacks of curves", *MAGIC seminar, Imperial College, London*, 28 January 2019.

Long term visits

Dec. 2019 **Research guest** (invited by A. Kresch), *University of Zürich*, Zürich.

Spring 2019 **Program associate** for the thematic semester "Birational geometry and moduli spaces", *MSRI*, Berkeley.

Spring 2017 **Ph.D. visiting student** (invited by A.J. de Jong), *Columbia University*, New York.

Short term visits

Nov 2019 KTH, *Stockholm*.

Aug 2019 Scuola Normale Superiore, *Pisa*.

Conferences and workshops attended

Sept. 2018   **CATS5**, *University of Lisbon*, Lisbon.

July 2018   **The arithmetic of derived categories**, *University of Trento*, Trento, *(presented the poster "The Chow ring and cohomological invariants of moduli stack of hyperelliptic curves of odd genus").*

June 2018   **GAeL XXVI**, *University of Strasbourg*, Strasbourg.

June 2018   **A tale of Algebra and Geometry-a conference to celebrate Angelo Vistoli's 60th birthday**, *University of Pisa*, Pisa.

March 2018   **School on birational geometry of hypersurfaces**, *Palazzo Feltrinelli*, Gargnano sul Garda, *(presented the poster "The Chow ring and cohomological invariants of moduli stack of hyperelliptic curves of odd genus").*

Sept. 2017   **Modern Moduli Theory 2017**, *University of Oxford*, Oxford.

Sept. 2017   **Vector Bundles on Algebraic Curves 2017**, *University of Duisburg-Essen*, Essen.

July 2017   **School on Deformation Theory**, *Università di Torino*, Torino.

June 2017   **GAeL XXV**, *University of Bath*, Bath.

June 2017   **Derived algebraic geometry and interactions**, *Université Toulouse III-Paul Sabatier*, Toulouse.

Sept. 2016   **School on Higgs bundles and fundamental groups of algebraic varieties**, *University of Duisburg-Essen*, Essen.

Jan. 2016   **Torsors in algebraic and arithmetic geometry**, *University of Nice-Sophia Antipolis*, Nice.

Services

Referee for International Mathematics Research Notices, Annali della Scuola Normale Superiore di Pisa.

Teaching

Fall 2019   **Cohomological field theories**, *graduate course*, Aarhus University.

Other activities

Co-organizer of the lecture course on "Derived algebraic geometry" at Scuola Normale Superiore, Pisa (8 lectures given), *Oct 2017-Jun 2018*.

Co-organizer of the lecture course on "Derived categories, Fourier-Mukai transform and Bridgeland stability" at Scuola Normale Superiore, Pisa (8 lectures given), *Oct 2016-Jun 2017*.

Outreach activities

"University orientation courses" for high school students, organized by Scuola Normale Superiore, *San Gimignano (2016), Roma (2017), Napoli (2018)*.
Tutor for scientific subjects

Awards and scholarships

2014-2015	Excellence program in Mathematics, MA, *Sapienza University of Rome.*
2012-2013	Excellence program in Mathematics, BA, *Sapienza University of Rome.*
2010–2013	Merit-based exemption from tuition fees payment

Computer skills

Operating systems	Unix, Windows
Programming languages	Mathematica, SageMath

Languages

Italian	Mothertongue
English	Fluent

Aarhus, October 26, 2019