

# Massimiliano Alessandro

## Curriculum Vitae

Università degli Studi di Genova,  
DIMA Dipartimento di Matematica,  
Via Dodecaneso 35,  
I-16146 Genova (GE) - Italia  
✉ alessandro@dima.unige.it  
Last update: August 2023

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### Personal Data

FIRST NAME: Massimiliano  
FAMILY NAME: Alessandro  
NATIONALITY: Italian

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### Current Position

**Ph.D. student in Mathematics** (joint doctoral program) at

- **Università degli Studi di Genova**, DIMA Dipartimento di Matematica, Genoa, Italy, supervisor: Prof. Dr. Matteo Penegini,
- **Universität Bayreuth**, Mathematisches Institut, Bayreuth, Germany, supervisor: Prof. Dr. Ingrid Bauer.

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### Diplomas

- 2019 **Laurea Magistrale in Matematica (Master of Science)**, *Università degli Studi di Catania*, Catania, Italy, with the comprehensive mark: 110/110 cum laude.  
Thesis title: *Razionalità e irrazionalità di ipersuperfici algebriche*.  
Supervisor: Prof. Dr. Francesco Russo.  
Award Date: 30 September 2019
- 2017 **Laurea in Matematica (Bachelor of Science)**, *Università degli Studi di Catania*, Catania, Italy, with the comprehensive mark: 110/110 cum laude.  
Thesis title: *Superfici a curvatura gaussiana nulla*.  
Supervisor: Prof. Dr. Francesco Russo  
Award Date: 17 November 2017
- 2013 **High School Diploma**, *Liceo Scientifico Statale "E. Fermi"*, Ragusa, Italy, certifying the results of the state exam at the end of the course of studies in: *Liceo Scientifico Piano Nazionale Informatica (PNI) - Corso Sperimentale Matematica e Fisica con elementi di Informatica*, with the comprehensive mark: 100/100 cum laude.  
Award Date: 8 July 2013

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### Education

- 2019- – **Ph.D. in Mathematics (joint doctoral program)**, *Università degli Studi di Genova, Italy, and Universität Bayreuth, Germany*, supervisors: Prof. Dr. Matteo Penegini (Genoa) and Prof. Dr. Ingrid Bauer (Bayreuth).
- 2017-2019 **Master Studies in Mathematics**, *Università degli Studi di Catania*, Catania, Italy.

- 2014-2017 **Bachelor Studies in Mathematics**, *Università degli Studi di Catania*, Catania, Italy.
- 10/2012 **English Language School**, "*Churchill House School*", Ramsgate, UK, Certificate Awarded: First Certificate in English (FCE), Level B2.
- 2008-2013 **Scientific High School**, *Liceo Scientifico Statale "E. Fermi"*, Ragusa, Italy.

## Affiliations and Fellowships

- 2020- – **Member of the PRIN 2020 "Curves, Ricci flat Varieties and their Interactions"**, *Ministero dell'Istruzione, dell'Università e della Ricerca*, 2020KKWT53-003, Principal Investigator: G. Mongardi.
- 2019-2023 **Ph.D. Fellowship "Borsa di Dottorato"**, *Università degli Studi di Genova*.  
11/2019-01/2023

## Research Visits

- 2021-2023 **Universität Bayreuth**, under the supervision of Prof. Dr. Ingrid Bauer, Bayreuth, Germany.  
10/2021-02/2023

## Research Fields

Complex algebraic geometry and related topics:

- Construction and classification of complex algebraic surfaces: in particular, surfaces of general type and their moduli space.
- Projective representations.

## Publications

2. ALESSANDRO, MASSIMILIANO AND CATANESE, FABRIZIO: *On the components of the Main Stream of the moduli space of surfaces of general type with  $p_g = q = 2$* , to appear in "Perspectives on four decades: Algebraic Geometry 1980-2020. In memory of Alberto Collino". Trends in Mathematics, Birkhäuser (arXiv:2212.14872v3).
1. ALESSANDRO, MASSIMILIANO AND GLEISSNER, CHRISTIAN AND KOTONSKI, JULIA: *Semi-Projective Representations and Twisted Schur Multipliers*, Communications in Algebra, DOI: 10.1080/00927872.2023.2211175 (2023).

## Papers in Preparation

- ALESSANDRO, MASSIMILIANO AND FRAPPORTI, DAVIDE AND GLEISSNER, CHRISTIAN: *On mixed surfaces*.

## Conference Talks

- 05/07/2023 **"CHPP surfaces: a new construction method for surfaces of general type with  $p_g = q = 2$ "**. Géométrie Algébrique en Liberté (GAeL) XXX, University of Warwick, Mathematics Institute, Coventry, UK.  
03/07/2023–07/07/2023

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## Invited Talks

- 05/06/2023 *"On the construction of certain surfaces of general type"*. Seminario di Ricerca di Geometria e Algebra, Università degli Studi di Catania, DMI Dipartimento di Matematica e Informatica, Catania, Italy.
- 16/03/2023 *"Equations of families of complex algebraic surfaces with  $p_g = q = 2$ "*. Doc in Progress, Università degli Studi di Trento, Dipartimento di Matematica, Trento, Italy.

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## Internal Research Talks

- 08/03/2023 *"On a new construction method for surfaces of general type with  $p_g = q = 2$ "*. Algebra & Geometry Research Seminar, Università degli Studi di Genova, DIMA Dipartimento di Matematica, Genoa, Italy.
- 06/2022 *"On some surfaces of general type with Albanese map of degree 3"*. Oberseminar Algebraische Geometrie - Lehrstuhl Mathematik VIII, Universität Bayreuth, Bayreuth, Germany (**2 Talks**: 02/06/2022, 09/06/2022).
- 09/11/2021 *"Triple covers of abelian surfaces"*. Oberseminar Algebraische Geometrie - Lehrstuhl Mathematik VIII, Universität Bayreuth, Bayreuth, Germany.

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## Reading Seminars

- SS 2022 *"On the classification of algebraic surfaces"*. Seminar for graduate students, Universität Bayreuth, Bayreuth, Germany (**2 Talks**).
- 2020-2021 *"On the Minimal Model Program"*. Geometry Seminar, Università degli Studi di Genova, DIMA Dipartimento di Matematica, Genoa, Italy (**4 Talks**: 30/10/2020, 13/11/2020, 07/05/2021, 21/05/2021, 28/05/2021).

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## Undergraduate Seminars

- WS 2021-2022 *"Bieberbach groups and flat manifolds"*. Reading course for undergraduate students, Universität Bayreuth, Bayreuth, Germany (**1 Talk**: 18/12/2021).
- 30/11/2017 *"Superfici a curvatura gaussiana nulla"*. Talk for undergraduate students, Università degli Studi di Catania, Catania, Italy.

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## Teaching

- WS 2022/23 **Assistant for exercise classes of the course "Complex Varieties" (Lecturer: Dr. Christian Gleissner)**, Universität Bayreuth, Bayreuth, Germany. Topics: *Complex Manifolds, Riemann Surfaces, Differential Forms, Line Bundles, Cohomology*.
- 2020-2021 **Tutor for the undergraduate courses "Algebra Lineare & Geometria Analitica (ALGA)", "Algebra 1" and "Analisi Matematica 1"**, Università degli Studi di Genova, DIMA Dipartimento di Matematica, Genoa, Italy.
- Academic Year: 2020-2021

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## Awards and Prizes

- 2016-2017 **Premi incentivanti per studenti iscritti al corso di laurea in Matematica L-35**, *Università degli Studi di Catania*, Catania, Italy.  
Academic Year: 2016-2017
- 2015-2016 **Premi incentivanti per studenti iscritti al corso di laurea in Matematica L-35**, *Università degli Studi di Catania*, Catania, Italy.  
Academic Year: 2015-2016
- 2014-2015 **Premi incentivanti per studenti iscritti al corso di laurea in Matematica L-35**, *Università degli Studi di Catania*, Catania, Italy.  
Academic Year: 2014-2015
- 2012 **Certamen Latinum Mutycense (Editio II)**, *I.I.S. "Galilei-Campailla"* (Sez. Classico), Modica, Italy, rewarded with Honourable Mention.
- 2011 **Certamen Latinum Aetnaeum (Editio VII)**, *Liceo Scientifico Statale "G. Galilei"*, Catania, Italy, rewarded with Honourable Mention.
- 2008 **Giochi Matematici di Sicilia AICM (Edition XII)**, *Mathematical Olympiads organized by AICM*, Enna, Italy, fourth place.
- 2008 **Premio Letterario "Nicholas Green"**, Ragusa, Italy, winner.

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## Spoken Languages

- Italian: Mother tongue.  
English: Advanced (C1).  
French: Beginner (A2).  
German: Beginner (A1).

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## Computer Skills

- C, Python, Singular: Competent  
MS Office: Proficient  
MAGMA,  $\text{\LaTeX}$ : Expert

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## Further Information

- 2012 **First Certificate in English (FCE)**, *University of Cambridge, ESOL Examinations*, Ramsgate, UK, Level B2.  
Award Date: October 2012
- 2010 **European Computer Driving Licence (ECDL)**, Ragusa, Italy.