

Valeria Bertini

Curriculum Vitae

Personal data

Name **Valeria Bertini**.
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Academic position

June 2022 - **Post-doc**, *Porto University (CMUP)*, Post-doc supervisor: Prof. André Oliveira.
Oct 2019 **Post-doc**, *TU-Chemnitz*, Post-doc supervisor: Prof. Christian Lehn, (2 years).

Education

Dec 2019 **Ph.D. in Mathematics**, *Université de Strasbourg and Università degli Studi di Roma Tor Vergata, joint project*, Très honorable, Thesis advisors: Prof. Gianluca Pacienza and Prof. Antonio Rapagnetta.
Thesis title: Rational curves on irreducible holomorphic symplectic varieties of OG10 type.
Jan 2015 **Master degree in Mathematics**, *La Sapienza University of Rome*, 110/110 cum laude.
Thesis title: Vanishing and Embedding theorems.
Dec 2012 **Bachelor degree in Mathematics**, *La Sapienza University of Rome*, 110/110 cum laude.
Thesis argument: minimal surfaces.

Research interests

Complex algebraic geometry, in particular: irreducible symplectic varieties (smooth and singular), moduli spaces of sheaves, rational curves, Hodge theory, automorphisms of symplectic varieties.

Publications and Preprints

June 2022 **Rational curves on primitive symplectic varieties of OG6 singular type**, *j.w. A. Grossi*, preprint arXiv: arXiv:2206.00691.
Mar 2022 **Hodge structure of singular O'Grady's moduli spaces**, *j.w. F. Giovenzana*, preprint arXiv: arXiv:2203.07917.
Jan 2021 **Rational curves on O'Grady's tenfolds**, preprint arXiv: arXiv:2101.01029, Accepted pending minor corrections at the Kyoto Journal of Mathematics.

Selected Work in Progress

New examples of singular symplectic varieties, *j.w. A. Capasso, A. Grossi, M. Mauri, E. Mazzon*, work in progress.
Intersection cohomology and cohomology of singular O'Grady's varieties, *j.w. Franco Giovenzana*, work in progress.

Rational maps between hyperkähler varieties via Dolbeault moduli spaces, *j.w. André Oliveira*, work in progress.

Teaching

- SS 2020/21 **Höhere Mathematik II**, *Exercise class*, TU Chemnitz.
- WS 2020/21 **Differential geometry**, *Exercise class*, TU Chemnitz.
- WS 2020/21 **Höhere Mathematik I**, *Exercise class*, TU Chemnitz.
- SS 2019/20 **Singularity theory**, *Exercise class*, TU Chemnitz.
- SS 2019/20 **Algebra**, *Exercise class*, TU Chemnitz.
- WS 2019/20 **Complex Geometry**, *Lectures and Exercise class*, TU Chemnitz.

Invited conference talks

- Feb 2023 **TBA**, *Stuttgart*, Workshop: Young Perspectives on Irreducible Holomorphic Symplectic Manifolds.
- Sep 2022 **Introduction on singular symplectic varieties**, *La Sapienza in Rome*, support talk at the conference: Hyperkaehler varieties and related topics.
- Apr 2022 **The Hodge structure of singular O'Grady's moduli spaces**, *CIRM Luminy*, Research school: Symplectic singularities in geometry and representation theory.
- Sept 2020 **Rational curves OG10-manifolds**, *Chemnitz University*, DMV Annual meeting 2020.
- Nov 2017 **Rational curves on hyperkähler manifolds**, *Bologna University*, Workshop on IHS manifolds and stability conditions.

Invited seminar talks

- Nov 2022 **TBA**, *VBAC webinar*.
- Sept 2022 **Compact Hyperkaehler varieties: from smooth to singular**, *Porto University*.
- Mar 2020 **Rational curves on irreducible holomorphic symplectic varieties of OG10-type**, *Augsburg University*.
- Jan 2020 **Rational curves on irreducible holomorphic symplectic varieties of OG10-type**, *Hannover University*.
- Nov 2019 **Singularities in birational geometry**, *Working group on extension theorems of holomorphic forms*, MPI MiS of Leipzig.
- Nov 2019 **Rational curves on irreducible holomorphic symplectic varieties of OG10-type**, *Poitiers University*.
- Sept 2019 **Symplectic varieties**, *MPI MiS of Leipzig*.
- July 2019 **Rational curves on irreducible holomorphic symplectic varieties of OG10-type**, *Università degli Studi di Trento*.
- May 2018 **Uniruled divisors on the Hilbert scheme of points on a K3 surface**, *Imperial College of London*, Junior geometry seminar.

Grants and honours

- 2018 **GAeL XXVI grants secured**, *Compositio Mathematica (4000 EUR)*, *European Mathematical Society (6000 EUR)*, *Gk1821 Grant University of Freiburg (10000 EUR)*, *Institute Henri Poincaré (7000 EUR)*, *CNRS (4000 EUR)*.
- Excellence degree 2015 Acknowledgment for the best 400 graduated students at La Sapienza in the academic year 2013-2014, over ca. 19.000 students.

Conference organised

- June 2019 **Workshop GAeL XXVII**, *Bucharest*.
June 2018 **Workshop GAeL XXVI**, *Strasbourg University*.

Conferences and schools attended

- Sep 2022 **Hyperkaehler varieties and related topics**, *La Sapienza in Rome*.
Aug 2022 **Hyperkähler manifolds and related geometries**, *Hotel San Michele (Cetraro)*.
Apr 2022 **Symplectic singularities in geometry and representation theory**, *CIRM Luminy*.
Dec 2021 **Arithmetic and geometry of varieties with trivial canonical bundle**, *Oslo*.
Nov 2021 **Derived Categories of Fano Varieties, Hyperkähler Varieties and their Period Maps**, *Udine (hybrid conference)*.
Sept 2021 **Interactive Workshop and Hausdorff School**, *MPI Bonn (hybrid conference)*.
Jun 2021 **GAeL XXVIII**, *Loughborough University*.
Sept 2020 **Fifth Japanese-European Symposium on Symplectic Varieties and Moduli spaces**, *online conference*.
Sept 2020 **DMV Annual Meeting 2020**, *Chemnitz University (online conference)*.
Dec 2019 **Geometry in Pairs**, *Roma 3 University, Rome*.
Sep 2019 **Computing with D-Modules II**, *MPI MiS of Leipzig*.
June 2019 **Workshop on Derived Categories, Moduli Spaces and Deformation Theory**, *Hotel San Michele, Cetraro*.
June 2019 **GAeL XXVII**, *Simion Stoilow Institute of Mathematics, Bucharest*.
June 2019 **Fourth Japanese-European Symposium on Symplectic Varieties and Moduli spaces**, *ETH Zürich*.
Dec 2018 **Aeneas Conference: Migrating Algebraic Geometry**, *Rome*.
June 2018 **GAeL XXVI**, *Strasbourg University*.
Mar 2018 **Birational Geometry of Hypersurfaces**, *Palazzo Feltrinelli, Gargnano del Garda*.
Feb 2018 **Workshop in Deformation Theory III**, *University of Bari*.
Nov 2017 **Workshop on IHS manifolds and Stability conditions**, *University of Bologna*.
Sep 2017 **Second Japanese-European Symposium on Symplectic Varieties and Moduli spaces**, *Bellavista Relax Hotel, Levico Terme (Trento)*.
Sep 2017 **CISM-EMS School on Rationality, Stable Rationality and Birationally Rigidity of Complex Algebraic Varieties**, *Udine*.
June 2017 **GAeL XXV**, *University of Bath*.
May 2017 **Chow Lectures**, *Max Planck Institute for Mathematics in the Sciences, University of Leipzig*.
Mar 2017 **Cycles and Moduli**, *ETH Zürich*.
Feb 2017 **Third Meeting for Young Women in Mathematics**, *University of Freiburg*.
Sep 2016 **Algebraic Geometry: Old and New**, *Radcliffe Observatory Quarter, University of Oxford*.
Sep 2016 **Differential forms in algebraic geometry**, *University of Freiburg*.
June 2016 **The Hodge Conjecture: State of the Art**, *Bellavista Relax Hotel, Levico Terme (Trento)*.
Apr 2016 **Varieties of Calabi-Yau type**, *Banach Center in Warsaw*.
Dec 2015 **Algebraic Geometry and Representation Theory in Rome**, *University La Sapienza of Rome*.

Language skills

Italian **Native speaker.**
English **Fluent.**
German **Working knowledge.**
French **Working knowledge.**

References

Prof. Gianluca Pacienza, *PhD advisor*, IECL Nancy, gianluca.pacienza@univ-lorraine.fr.

Prof. Antonio Rapagnetta, *PhD advisor*, Università degli Studi di Roma Tor Vergata, rapagnet@mat.uniroma2.it.