LUDOVICA BUELLI

Curriculum vitae et studiorum

Personal information and contact details

Date and place of birth
July 15, 1998, Savona
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Via Dodecaneso 35,
16146 Genova,
Department of Mathematics,
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Languages

♦ Italian
  Native Language
♦ English
  Advanced
♦ French
  Basic

Digital skills

♦ C++
♦ Matlab
♦ R
♦ CoCoA 5

Last update: October 2024.

Current position

♦ PhD Student in Mathematics and Applications — November 2022 – present
University of Genoa, Department of Mathematics, XXXVIII Cycle
Research theme: Complex and Algebraic Geometry
Thesis subject: Locally trivial monodromy of moduli spaces of sheaves on abelian surfaces.
Advisor: Prof. Arvid Perego.

Education

♦ Master's Degree in Mathematics — September 2020 – October 2022
University of Genoa, Department of Mathematics
Curriculum: General Mathematics
Thesis title: *"D-equivalence of algebraic curves"*
Supervisor: Prof. Arvid Perego
Final grade: 110/110 cum laude.

♦ Bachelor's Degree in Mathematics — September 2017 – September 2020
University of Genoa, Department of Mathematics
Curriculum: General Mathematics
Thesis title: *"Higher homotopy groups"*
Supervisor: Prof. Arvid Perego
Final grade: 104/110.

Visiting periods

♦ University of Bologna. — February 11-25, 2024

Research interests

♦ **Complex and Algebraic Geometry**: theory of irreducible symplectic varieties, both smooth and singular, moduli spaces of sheaves on K3 surfaces or abelian surfaces. Monodromy of singular irreducible symplectic varieties built from moduli spaces of semistable sheaves on abelian surfaces.

♦ **Category theory**: derived categories, derived functors, with particular attention to Fourier-Mukai transforms.

Teaching activities

♦ *Linear Algebra and Analytic Geometry* – Exercise class — September 2024 – June 2025
University of Genoa, Department of Mathematics.
Activities: guided exercises. Duration: 40 hours.

♦ *Algebra 1, Linear Algebra and Analytic Geometry, Calculus 1* - Teaching tutoring — September 2023 – June 2024
University of Genoa, Department of Mathematics.
Activities: guided exercises. Duration: 60 hours.

♦ *Geometry 2* - Teaching tutoring — March 2023 – September 2023
University of Genoa, Department of Mathematics.
Activities: guided and blackboard exercises. Duration: 30 hours.

♦ *Algebra 1, Linear Algebra and Analytic Geometry, Calculus 1* - Teaching tutoring — September 2022 – September 2023
University of Genoa, Department of Mathematics.
Activities: guided exercises. Duration: 50 hours.

♦ *Calculus 1* and *Geometry* - Teaching tutoring — September 2021 – June 2022
University of Genoa, Department of Mechanical, Energetic, Management and Transportation Engineering, Degree course: Management Engineering.
Activities: guided and blackboard exercises. Duration: 60 hours.

Seminar talks

♦ *"Introduction to Derived Categories"*.   October 22, 2024
University of Genoa, Algebraic Geometry working group on *"Bridgeland stability"*.

♦ *"Deformation theory of stable atomic vector bundles"*.   June 26, 2024
University of Genoa, Algebraic Geometry working group on *"Modular and Atomic sheaves"*.

♦ *"Basic modular sheaves on the Hilbert square of an elliptic K3 surface"*.   March 6, 13 & 19, 2024
University of Genoa, Algebraic Geometry working group on *"Modular and Atomic sheaves"*.

♦ *"Locally trivial deformations"*.   November 21, December 5 & 12, 2023
University of Genoa, Algebraic Geometry working group on *"Deformation theory"*.

♦ *"Hermite-Einstein and Kähler-Einstein metrics"*.   November 10 & 15, 2022
University of Genoa, Algebraic Geometry working group on *"K-stability"*.

Conference talks

♦ Junior talk *"A gentle crash course on IHS manifolds"*.   January 22, 2024
Conference *"Fano and Hyperkähler varieties in Genova"*, University of Genoa.

Poster sessions

♦ Poster *"Locally trivial monodromy of moduli spaces of sheaves on abelian surfaces"*.   September 3, 2024
Conference *"New perspectives on hyperkähler manifolds and moduli of vector bundles"*, Cetraro.

♦ Poster *"Locally trivial monodromy of moduli spaces of sheaves on abelian surfaces"*.   September 17, 2024
Conference *"Japanese-European Symposium on Symplectic Varieties and Moduli Spaces"*, RIMS, Kyoto.

Conferences and Schools attended

♦ Workshop *"Irreducible Symplectic Varieties and Projective Geometry"*.   September 23-25, 2024
Waseda University, Tokyo.

♦ Conference *"Japanese-European Symposium on Symplectic Varieties and Moduli Spaces"*.   September 17-20, 2024
RIMS, Kyoto.

♦ Workshop *"Séminaire Méditerranéen de Géométrie Algébrique"*.   September 10-11, 2024
University of Genoa.

♦ Conference *"New perspectives on hyperkähler manifolds and moduli of vector bundles"*.   September 2-6, 2024
Cetraro.

♦ School *"Irreducible holomorphic symplectic manifolds: group actions and moduli spaces"*.   August 26-30, 2024
School of Innovation in Geometry, Trento.

♦ Conference *"Fano and Hyperkähler varieties in Genova"*.   January 22-26, 2024
University of Genoa.

♦ School *"K3 surfaces, hyperkähler manifolds, and cubic fourfolds"*.   September 11-15, 2023
Hausdorff Research Institute for Mathematics, Bonn.

♦ Conference *"Algebraic Geometry Genova-Nice-Torino meeting"*.   June 19-20, 2023
University of Genoa.

♦ Workshop *"Genova-Torino-Milano Seminar: Topics in Commutative Algebra & Algebraic Geometry"*.   June 8-9, 2023
University of Genoa.

♦ Conference *"Japanese-European Symposium on Symplectic Varieties and Moduli Spaces"*.   May 22-26, 2023
University of Milan.

♦ Workshop *"Young perspectives on Irreducible Holomorphic Symplectic Manifolds"*.   February 13-15, 2023
University of Stuttgart.

Grants and honors

♦ Participant in PRIN PNRR 2022   November 2022 - present
Research Project title: *"Algebraic Geometry: linking classical heritage to modern developments"*.