

Leonardo Lanciano

Curriculum Vitae

About Me:

Date of Birth 08/04/1999

Residence 3018 Bern, Switzerland

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Key Traits Open-Minded and Creative Reasoning, Innovative, Optimistic

Education

October 2023-Present — **University of Buenos Aires, Faculty of Exact and Natural Sciences**
Ph.D. in Mathematical Sciences, in progress (Expected Finish date 2026).

2018-May 2023 — **University of Buenos Aires, Faculty of Exact and Natural Sciences.**
Degree Earned: Licenciado en Ciencias Matemáticas (Equivalent to Masters).
Master's Thesis 24/05/2023: **On the degree of the tangent bundle of an algebraic variety.**
Thesis Advisor: Pablo Solernó.
Thesis Co-Advisor: Gabriela Jeronimo.

GPA

Career GPA **without** CBC: **8.81.**

Research

Interests: **Algebraic Geometry, Commutative Algebra, Differential Algebra, Complex Geometry**

Current: Paper in progress on elimination theory with support bounds for DAE systems.

27/04/2025 — **On the geometric degree of the tangent bundle of a smooth algebraic variety**
G. Jeronimo, L. Lanciano, P. Solernó.
Collectanea Mathematica, 2025.
DOI: `https://doi.org/10.1007/s13348-025-00474-y`

Talks and Seminars

14/03/26 **On Milnor Lattices and singularities smoothings**
Final Talk for Arithmetic of Quadratic Forms.

26/02/26 **On the Geometric Degree of Algebraic Vector Bundles**
Talk for the Bern-Fribourg graduate seminar.

27/03/2025 **Isometries between Hardy Spaces.**
Final Talk for Harmonic Analysis.

18/07/2024 **Polynomial Equations Seminar**
Talk on the preprint: On the geometric degree of the tangent bundle of a smooth algebraic variety.

July 2024 **An abstract introduction to sheaf cohomology**
Final talk for Homological Algebra

10/03/2024-1/12/2024 **Tropical Geometry Seminar**
Delivered an introductory seminar on tropical geometry.

December 2023 **The Arithmetic Riemann-Roch Theorem**
Final talk for Number Theory.

22/09/2023 **Annual Meeting of the Argentine Mathematical Union**
Scientific communication: On the degree of the tangent bundle of an algebraic variety

December 2022 **The Hurewicz Theorem**
Final talk for Topology.

December 2022 **The Riesz-Thorin Interpolation Theorem**
Final talk for Differential Equations A

Attendance at Scientific Conferences and Courses

Second Semester 2024 **Doctoral Courses:**
- Topics in Harmonic Analysis. Passed, final grade: 10.
- Arithmetic of Quadratic Forms. Passed, final grade: 10.

First Semester 2024 **Approved Doctoral Courses:**
- Topics in Homological Algebra, University of Buenos Aires, Final Grade: 10.
- Topics in Differential Topology, University of Buenos Aires, Final Grade: 10.

Second Semester 2023 **Approved Doctoral Courses:**
- Topics in Number Theory, University of Buenos Aires, Final Grade: 10.

19/09/2023 - 22/09/2023 **Annual Meeting of the Argentine Mathematical Union**
Attendance at courses:
- Introduction to Real Algebraic Geometry (4 hours and 30 minutes), organized by Daniel Perrucci.
- Nilgeometry (4 hours and 30 minutes), organized by Gabriela Paola Ovando.

20/09/2022 - 23/09/2022 **Annual Meeting of the Argentine Mathematical Union**
Attendance at courses:
- Finite Topological Spaces (4 hours and 30 minutes), organized by Jonathan Barmak.
- Introduction to Graph Theory: Intersection Graphs (4 hours and 30 minutes), organized by María Pia Mazzoleni.

Awards, Grants, and Distinctions

1/08/2026 Obtained a position as Teaching Assistant at UniDistance Suisse

1/03/2025 **Obtained a position as a Head Teaching Assistant in the University of Buenos Aires**

4/07/2024 **Awarded CONICET Fellowship (Declined)**

11/10/2023-1/10/2026 **Awarded UBACyT Fellowship**

Teaching Experience

Department of Mathematics, FCEyN, University of Buenos Aires

Head Teaching Assistant

1st Semester 2025 **Analysis II.**

Integrals on Curves and Surfaces, Green-Stokes-Gauss Theorems, Differential Equations.

Summer 2025 **Analysis II.**

Integrals on Curves and Surfaces, Green-Stokes-Gauss Theorems, Differential Equations.

Graduate Teaching Assistant

Second Semester 2024 **Complex Analysis.**

Möbius Transformations, Holomorphic Functions, Complex Integration, Conformal Mappings.

Includes grading exams, answering questions on practical exercises, and teaching.

First Semester 2024 **Functional Analysis**

Banach Spaces, Weak Topologies, Hilbert Spaces, Functional Calculus.

Second Semester 2023 **Complex Analysis.**

Möbius Transformations, Holomorphic Functions, Complex Integration, Conformal Mappings.

First Semester 2023 **Complex Analysis.**

Möbius Transformations, Holomorphic Functions, Complex Integration, Conformal Mappings.

Teaching Assistant

Includes grading exams, answering questions on practical exercises, and occasionally teaching classes.

Second Semester 2023 **Linear Algebra.**

Vector Spaces, Matrices, Dual Spaces, Diagonalization, Jordan Form, Bilinear Forms.

First Semester 2023 **Advanced Analysis.**

Metric Spaces, Normed Spaces, Introduction to Lebesgue Measure.

Second Semester 2022 **Advanced Analysis.**

Metric Spaces, Normed Spaces, Introduction to Lebesgue Measure.

First Semester 2022 **Advanced Analysis.**

Metric Spaces, Normed Spaces, Introduction to Lebesgue Measure.

Second Semester 2021 **Algebra I.**

Sets, Combinatorics, Integers, Polynomials.

First Semester 2021 **Analysis II.**

Integrals on Curves and Surfaces, Green-Stokes-Gauss Theorems, Differential Equations.

Second Semester 2020 **Algebra I.**

Sets, Combinatorics, Integers, Polynomials.

Additional Training:

Languages

Spanish:	Mother Tonge.	*Level C2*
Deutsch:	Alemania Schule - Bern	*(Taking A2.2)*
English:	Washington School High School (International Baccalaureate School)	*(Level C1)*
English:	First Certificate in English (FCE).	*(Level B1)*
Portuguese:	Washington School High School	*(Level A1)*

Programming Languages

Languages	Singular, Haskell, Python, Sage.
Others	LaTeX- Microsoft Office.