

Livia Grammatica

Curriculum Vitae

UFR Math-Info Strasbourg
7 Rue René Descartes, Bureau 209
✉ livia.grammatica@math.unistra.fr
<https://irma.math.unistra.fr/~grammatica/>

I am a third-year PhD student at IRMA Strasbourg working under the joint supervision of **Marco D'Addezio** (IRMA) and **Anna Cadoret** (IMJ-PRG). I am broadly interested in algebraic and arithmetic geometry, and my current research revolves around cohomology theories in positive characteristic, monodromy groups of isocrystals and Brauer groups.

Education

- 10/2024 – Ongoing **PhD in Arithmetic Geometry**, Université de Strasbourg, under the joint supervision of Marco D'Addezio and Anna Cadoret.
- 09/2023 – 08/2024 **M2 Mathématiques Fondamentales**, Sorbonne Université, average of 19/20.
- 10/2021 – 09/2023 **Master's degree in Mathematics**, Università di Pisa, graduated *con lode*.
- 10/2018 – 09/2021 **Bachelor degree in Mathematics**, Università di Pisa, graduated *con lode*.
- 10/2018 – 09/2023 **Scuola Normale Superiore diploma**, graduated *con lode*.

Scholarships and grants

- 10/2024 – 10/2027 **Marie Curie PhD grant**
Marie Skłodowska-Curie Actions grant n°101126554
- 03/2024 – 06/2024 **PGSM grant for a research internship outside Ile-de-France**
- 09/2023 – 08/2024 **PGSM scholarship for the M2 Mathématiques Fondamentales**
- 10/2018 – 09/2023 **Scuola Normale Superiore Scholarship**

Languages



Fluent in Italian, French and English, B2 level in German.

Preprints

- October 2026 **Monodromy of Tate-Linear varieties**, [arXiv:2610.13827](https://arxiv.org/abs/2610.13827)
- November 2025 **Brauer groups of abelian varieties over fields of finite characteristic**, joint with Alexei Skorobogatov and Yuan Yang, [arXiv:2511.08840](https://arxiv.org/abs/2511.08840)
- October 2025 **Formal smoothness of the Artin–Mazur formal groups**, [arXiv:2510.03001](https://arxiv.org/abs/2510.03001)
- July 2025 **Some applications of the Nygaard filtration and quasisyntomic descent in positive characteristic**, [arXiv:2507.08568](https://arxiv.org/abs/2507.08568)

Invited talks

- October 2026 **Séminaire de théorie des nombres de l'IMJ-PRG** 🌐, Sorbonne Université
- September 2026 **Conférence du regroupement thématique Théorie des nombres RT2N** 🌐, CIRM Marseille
- September 2026 **Recent Developments in Arithmetic and Algebraic Geometry in Positive Characteristic** 🌐, Bergische Universität Wuppertal
- November 2025 **London number theory seminar** 🌐, Imperial College London
- May 2025 **Workshop of the Bernoulli program “Arithmetic geometry of K3 surfaces”** 🌐, Bernoulli Center, Lausanne

- March 2025 **Séminaire de géométrie algébrique des doctorants** 🌐, IRMAR Rennes
- October 2024 **Arithmetic geometry of K3 surfaces and related areas** 🌐, Imperial College
- March 2024 **Junior Geometry and Mathematical Physics Seminar**, SISSA, Trieste

Visits

- November 2025 **Universität Regensburg**
One-month visit, hosted by Moritz Kerz.
- November 2025 **Imperial College**
Invited by Alexei Skorobogatov for three days.
- April 2025 **Bernoulli research program “Arithmetic geometry of K3 surfaces”** 🌐, Bernoulli Center, Lausanne
Invited by Alexei Skorobogatov for one and a half weeks.
- March 2023 **KTH Stockholm**
Visited Michele Pernice and David Rydh for a week to discuss my master’s thesis.

Thesis and other projects

- Spring 2024 **Mémoire de M2 (Master’s thesis)**, Sorbonne Université, under the supervision of Marco D’Addezio.
Title: Some applications of the Nygaard filtration and quasisyntomic descent in positive characteristic.
- Spring 2023 **Tesi magistrale (Master’s thesis)**, Università di Pisa, under the supervision of Angelo Vistoli.
Title: The Grothendieck group of the stack of smooth genus 2 curves.
- 2021 – 2022 **Proofreading of the new Italian translation of *Disquisitiones Arithmeticae***
I proofread the draft of the first Italian translation of Gauss’s *Disquisitiones*, by Sandro Graffi and Costanza Larese, now published by Edizioni della Normale. The project was supervised by Professors Benzi and Zannier.
- Spring 2021 **Tesi triennale (Bachelor’s thesis)**, Università di Pisa, under the supervision of Angelo Vistoli.
Title: Il teorema di connessione di Fulton-Hansen.

Conferences

- July 2026 **Curves, Abelian Varieties and Related Topics** 🌐, Universitat de Barcelona
- July 2026 **p -adic Cohomology and Explicit Arithmetic** 🌐, Università di Genova
- June 2026 **JAVA Summer School: The Hodge Conjecture for Abelian fourfolds** 🌐, Montpellier
I gave a talk titled “Hodge–Weil classes on $X \times \widehat{X}$ from tensor squares of pure spinors”.
- March 2026 **Recent Advances in Motivic Cohomology** 🌐, Universität Osnabrück
- January 2026 **Motives in Montpellier** 🌐, Institut Montpelliérain Alexander Grothendieck
- September 2025 **Period maps: classical and p -adic** 🌐, Institut d’Etudes Scientifiques de Cargèse
- March 2025 **Arizona Winter School 2025** 🌐, University of Arizona, Tucson
- October 2024 **Arithmetic geometry of K3 surfaces and related areas** 🌐, Imperial College
- July 2024 **JAVA Summer School: Irrationality, unramified cohomology and hypersurfaces** 🌐, Montpellier
I gave a talk titled “The Gersten conjecture for étale cohomology”.
- May 2024 **Summer School on Hodge Theory** 🌐, IRMAR, Rennes

- September 2022 **Recent Perspectives on Hodge Theory** 🌐, CRM De Giorgi, Pisa
 July 2022 **Geometry and Arithmetic of moduli spaces** 🌐, Università di Pisa

Teaching

- Spring 2026 **Algèbre S2**, Université de Strasbourg
 I was responsible for half of the second-semester linear algebra course, aimed at first year mathematics and computer science students.
- Spring 2026 **Oral examinations in real analysis**, Université de Strasbourg
 I supervised oral interrogations for the second-semester analysis course, aimed at advanced first year mathematics students.
- Spring 2022 **Student tutoring for a linear algebra course**
 I was the tutor for Massimo Gobbino's linear algebra course at the Department of Electronics Engineering.

Other scientific activities

- Ongoing **Organizer of the online seminar AGES** 🌐
- April 2026 **RJMI 2026**, Université de Strasbourg
 The RJMI is a yearly math event held in Strasbourg, aimed at young women in high school who are interested in mathematics and computer science. I prepared a problem on plane tilings, and mentored a group of 3 students who worked on it for two days and gave a final presentation about their results.
- Winter 2024 **Organized a reading group on the Parabolicity conjecture for isocrystals**
- Fall 2023 **Organized a reading group on K3 surfaces**
- Spring 2023 **Organized a reading group on abelian varieties and Faltings' theorem**
- Spring 2022 **Organized a reading group on topological K-theory and the index theorem**
- 2020-2023 **Staff member of RIMSE** 🌐
 RIMSE was a student network that organized activities such as reading groups, seminars, and a mentorship program for mathematics students at Italian Scuole d'Eccellenza.

Working groups

- Spring 2026 **Working group on mirror symmetry via p -adic integration**
 I gave a talk on the moduli spaces of Higgs bundles with G -structure.
- Fall 2025 **Working group on prismatic Steenrod operations**
 I presented two classical applications of Steenrod operations to algebraic geometry.
- Fall 2025 **Working group on Shimura varieties**
 I gave a talk on the moduli interpretation of PEL Shimura varieties.
- Spring 2025 **Working group on formal moduli problems**
 I gave a talk on the possible pathologies of surfaces in positive characteristic.
- Spring 2025 **Working group on the birational classification of surfaces**
 I presented the Schlessinger–Rim criterion for pro-representability and some applications.
- Fall 2024 **Working group on Pink's work on the Mumford–Tate conjecture**
 I gave an expository talk on crystalline cohomology
- Fall 2024 **Working group on Weil I**
 I gave an expository talk on constructible ℓ -adic sheaves.
- 2022/2023 **Working group on Kolyvagin's work on elliptic curves** 🌐
 I gave a talk on Tate duality.

Fall 2021 **Working group on quiver representations**

I presented Crawley-Boevey and Van den Bergh's proof of a special case of Kac's conjecture.