

# Claudia Fevola

## Curriculum Vitae

INRIA Saclay  
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### Contact information

- **Date of birth:** July 13, 1995
- **Place of birth:** Atripalda (AV), Italy
- **Nationality:** Italian

### Positions

- 11/2023 - **Marie Skłodowska-Curie fellow**, *MATHEXP team*, INRIA Saclay, Palaiseau.  
10/2025 Funded by the MathInGreaterParis Fellowship Programme.
- 06/2023 - **Postdoctoral Researcher in Mathematics**, *Nonlinear Algebra group*, Max Planck Institute  
10/2023 for Mathematics in the Sciences, Leipzig.

### Education and Degrees

- 04/2020 - **PhD student**, *Mathematics*, Max Planck Institute for Mathematics in the Sciences, Leipzig.  
06/2023 Thesis title: Computation and Physics in Algebraic Geometry  
Advisors: Daniele Agostini and Bernd Sturmfels  
Grade: Summa cum laude
- 09/2017 - **Master of Science**, *Mathematics*, Università degli Studi di Napoli "Federico II", Italy.  
02/2020 Thesis title: Even Sets of Eight Rational Curves on a K3-surface  
Advisors: Davide Franco and Marco Ramponi  
Grade: 110/110
- 04/2019 - **Erasmus+ Exchange Programme**, University of Augsburg, Germany.  
08/2019 Research for Master Thesis in Algebraic Geometry
- 09/2013 - **Bachelor of Science**, *Mathematics*, Università degli Studi della Campania "Luigi Vanvitelli",  
07/2017 Italy.
- 02/2016 - **Erasmus+ Exchange Programme**, University of Lisbon, Portugal.  
06/2016

### Grants

- MathInGreaterParis Postdoctoral Fellowship (2023-2025), cofunded by Marie Skłodowska-Curie Actions (MSCA) and Fondation Sciences mathématiques de Paris (FSMP).

### Awards

- Otto Hahn Medal for the year 2023.

### Publications

8. **Vector Spaces of Generalized Euler Integrals**, with D. Agostini, A.–L. Sattelberger, and S. Telen (2022). ArXiv:2208.08967. To appear in *Communications in Number Theory and Physics*.
7. **Landau singularities revisited: Computational algebraic geometry for Feynman integrals**, with S. Mizera and S. Telen. *Physical Review Letters* **132** (10), 101601 – Published 4 March 2024.
6. **The Hirota Variety of a Rational Nodal Curve**, with Y. Mandelshtam. *Journal of Symbolic Computations* **120** (2024) 102239.
5. **The Enumerative Geometry of Cubic Hypersurfaces: Point and Line Conditions**, with M. Belotti, A. Danelon, and A. Kretschmer. *Collectanea Mathematica* (2023) 1–35.
4. **Likelihood Degenerations**, with D. Agostini, T. Brysiewicz, L. Kühne, B. Sturmfels, and S. Telen. *Advances in Mathematics* **414** (2023) 108863.
3. **KP Solitons from Tropical Limits**, with D. Agostini, Y. Mandelshtam, and B. Sturmfels. *Journal of Symbolic Computation* **114** (2023) 282–301.
2. **Tangent Quadrics in Real 3-Space**, with T. Brysiewicz and B. Sturmfels. *Le Matematiche* **76** (2021) 355–367.
1. **Pencils of Quadrics: Old and New**, with Y. Mandelshtam and B. Sturmfels. *Le Matematiche* **76** (2021) 319–335.

## Preprints

2. **Principal Landau Determinants**, with S. Mizera and S. Telen (2023). ArXiv:2311.16219. Submitted to *Computer Physics Communications*.

## Expository Articles

1. **The Mathematical Research-Data Repository MathRepo**, with C. Görgen (2022). *Der Computeralgebra-Rundbrief Nr. 70* 16–20.

## Research Visits

- College of Sciences of Koç University, Istanbul, Turkey. December 12-29, 2023  
Contact person: Türkü Özlüm Çelik. Meeting for scientific discussion and seminar talk.
- Institute for Advanced Studies, Princeton, US. February 15-23, 2023  
Contact person: Dr. Sebastian Mizera. Meeting for scientific discussion and seminar talk.
- Inria Saclay (MATHEXP team), Paris, France. November 21-25, 2022  
Contact person: Prof. Pierre Lairez. Meeting for scientific discussion and seminar talk.
- Max Planck Institute for Physics, Munich, German, September 27 - October 1, 2021  
Contact person: Prof. Johannes Henn. Meeting for scientific discussion.

## Conference Talks

- **Landau Singularities**  
*Positive Geometry in Particle Physics and Cosmology*, MPI MiS, Leipzig - February 12-16, 2024.
- **Principal Landau Determinants: Part I**  
*Tropical Geometry and Infrared Divergences: Heated Discussions on Cool Topics*, Institute for Advanced Studies - October 2-6, 2023.
- **Principal Landau Determinants: Part I**  
*MathAmplitudes 2023: QFT at the Computational Frontier*, Centro Universitario Padovano - September 25-27, 2023.

- **Principal Landau Determinants**  
*SIAM Conference on Applied Algebraic Geometry (AG23)*, Eindhoven University of Technology - July 10-14, 2023.
- **Generalized Euler integrals**  
*A Hypergeometric Day*, MPI MiS, Leipzig - May 5, 2023.
- **KP solutions from nodal curves, and the Schottky problem**  
*Regional Workshop in Algebraic Geometry*, University of Jena - March 29-31, 2023.
- **KP solutions from nodal curves, and the Schottky problem**  
*Joint Mathematics Meetings (JMM 2023)*, Boston - January 4-7, 2023.
- **Generalized Euler integrals: differential operators and convex polytopes**  
*Tropical and Convex Geometry and Feynman integrals*, Institute for Theoretical Studies, ETH Zürich - September 5-9, 2022.
- **Rational Nodal Curves, KP Solutions, and the Schottky Problem**  
*MEGA 2022*, Kraków - June 20-24, 2022.
- **Nonlinear Algebra meets Feynman Integrals**  
*Workshop on Nonlinear Algebra and Combinatorics from Physics*, CMSA Harvard University - April 27-29, 2022.
- **KP Solitons from Tropical Limits**  
*Leipzig Lectures on Theta - Replacement*, MPI MiS Leipzig - March 15-17, 2022.
- **Master Integrals and twisted de Rham Cohomology**  
*Feynman integrals and nonlinear algebra*, MPI MiS Leipzig - March 10-11, 2022.
- **Likelihood Degenerations**  
Mini-Workshop: Scattering Amplitudes, Cluster Algebras, and Positive Geometries (hybrid meeting), Oberwolfach - December 5-11, 2021.
- **KP Solitons from Tropical Limits**  
*Workshop Non-Archimedean and Tropical Geometry*. Goethe University, Frankfurt. Online - December 10, 2021
- **Likelihood Degenerations**  
*Women in Algebra and Symbolic Computations II*, Bad Dürkheim - November 29-December 1, 2021.
- **M-Curves**  
*Mini-Workshop on Curves and Riemann Surfaces*, MPI MiS Leipzig - November 25, 2021.
- **Pencils of Quadrics: Old and New**  
*SIAM Conference on Applied Algebraic Geometry*, Texas A&M University - August 2021.
- **KP Solitons from Tropical Limits**  
*MEGA 2021*, Tromsø, June 2021.

## Seminar Talks

- **Computational Algebraic Geometry for Feynman Integrals and their Singularities**  
*Seed Seminar of Mathematics and Physics*, Institut Henri Poincaré, Paris - March 27, 2024.
- **Computational Algebraic Geometry for Feynman Integrals and their Singularities**  
*IJCLab Seminar*, Orsay - March 1, 2024.
- **KP solutions from nodal curves, and the Schottky problem**  
*The Bielefeld Algebraic and Arithmetic Geometry Seminar 2023*, University of Bielefeld - January 31, 2024.
- **Nonlinear Algebra in Particle Physics**  
*Koç University Math Seminar*, Koç University - December 14, 2023.

- **Vector Spaces of Generalized Euler Integrals**  
*Seminar Number Theory and Algebraic Geometry*, KU Leuven - May 11, 2023.
- **Vector Spaces of Generalized Euler Integrals**  
*Applied Combinatorics, Algebra, Topology & Statistics*, KTH Stockholm - April 18, 2023.
- **KP Solutions from Tropical Limits**  
*Latin American Geometria Algebraica Real y TrOpical Seminar*, Online - March 24, 2023.
- **KP Solitons from Tropical Limits**  
*Oberseminar Kombinatorische Algebraische Geometrie Tübingen*, University of Tübingen - February 1, 2023.
- **KP Solitons from Tropical Limits**  
*Seminar Algebra and Combinatorics*, University of Leipzig - December 8, 2022.
- **Vector Spaces of Generalized Euler Integrals**  
*The Joint MATHEXP-POLSYS Seminar*, Paris, Jussieu - November 25, 2022.
- **Vector Spaces of Generalized Euler Integrals**  
*Kolchin Seminar in Differential Algebra*, Online - September 30, 2022.
- **Pencils of Quadrics: Old and New**  
*Brown Combinatorics Seminar: Combinatorics and Nonlinear Algebra Day at Brown*, Brown University - April 26, 2022.
- **The Enumerative Geometry of Cubic Hypersurfaces: Point and Line Conditions**  
*Seminar on Nonlinear Algebra*, MPI MiS Leipzig - October 2021.
- **Pencils of Quadrics: Old and New**  
*Ghent Junior Algebra and Geometry Seminar*. June 21, 2021.
- **KP Solitons from Tropical Limits**  
*Graduate Inter-university Math Seminar*. Online - May, 2021.
- **KP Solitons from Tropical Limits**  
*SFU Number Theory and Algebraic Geometry Seminar*. Online - March 2021.

## Teaching Experience

- Second semester 2023/2024: 28 hours as teaching assistant for "Machine Learning" (Bachelor of Science - École Polytechnique).
- Domoschool 2024: Intersecting Feynman Integrals. Minicourse on "Topology and Geometry of Euler-Mellin-Feynman integrals" - Domodossola, Italy. July 15-19, 2024.

## Organization

- "MathemAmplitudes 2025: Co-homology and Combinatorics of GKZ systems, Euler-Mellin-Feynman Integrals, and Scattering Amplitudes" - MITP, Mainz - September 22-26, 2025. Organizer together with Federico Gasparotto, Manoj Kumar Mandal, Pierpaolo Mastrolia, and Sebastian Mizera.
- Minisymposium "Algebraic Curves, Integrable Systems, and Computer Algebra" - SIAM Conference on Applied Algebraic Geometry (AG23), Eindhoven University of Technology - July 10-14, 2023. Organizer together with Türkü Özlüm Çelik.
- Reading Group on "KP Solitons and the Grassmannian" - Online, Fall 2020.
- Maintainer for the online repository MathRepo.

## Languages

- Italian (Native speaker), English (C1/C2), Spanish (A2), French (A2)