



# Luca Fiorindo, MSc

## Scientific Interests

- Comm. Algebra     Koszul algebras, Vasconcelos number, Lefschetz properties, Betti numbers
- Combinatorics     Simplicial complexes, Stanley-Reisner rings

## Education

- 2022 – now     **Ph.D. student**, *University of Genoa*, Italy  
Supervisor: Aldo Conca
- 2022     **Percorso Formativo comune**, *SISSA*, Trieste, Italy  
Joint MSc curriculum between SISSA and University of Trieste.  
 [www.math.sissa.it/content/msc-mathematics](http://www.math.sissa.it/content/msc-mathematics)
- 2020 – 2022     **Laurea Magistrale in Matematica (Master)**, *University of Trieste*, Italy  
Final mark: 110\110 magna cum laude  
Thesis title: *Polynomials with vanishing Hessian and Lefschetz properties*  
Supervisor: Emilia Mezzetti
- 2017 – 2020     **Laurea in Matematica (Bachelor)**, *University of Trieste*, Italy  
Final mark: 110\110 magna cum laude  
Thesis title: *The axioms of the Projective Space*  
Supervisor: Emilia Mezzetti
- 2012 – 2017     **Technical institute diploma**, *ITTS Vito Volterra*, San Donà di Piave, Italy.  
Curriculum: informatics and telecommunications.  
Final mark: 95\100.

## Research Publications

### Pre-prints



- 5    *A theorem on the asymptotic behaviour of the generalised v-number*, 2024. arXiv: 2401.17815.
- 4    *On the asymptotic behaviour of the vasconcelos invariant for graded modules*, 2024. arXiv: 2401.16358, with D. Ghosh.
- 3    *An isomorphism theorem for arithmetic complexes*, 2023. arXiv: 2309.17416, with E. Reed and S. Roshan-Zamir and H. Yu.
- 2    *Hilbert functions and jordan type of perazzo artinian algebras*, To appear in: "Lefschetz Properties: Current and New Directions", 2023. arXiv: 2303.16768, with N. Abdallah and N. Altafi and P. De Poi and A. Iarrobino and P. Macias Marques and E. Mezzetti and R. M. Miró-Roig and L. Nicklasson.

### Journal Articles

- 1    "Perazzo 3-folds and the weak lefschetz property," *Journal of Algebra*, vol. 626, pp. 56–81, 2023, with E. Mezzetti and R. M. Miró-Roig.





## Awards, Grants and Scholarships

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- Nov 2022 - Oct 2025     **PhD Scholarship**, *University of Genoa, Italy*
- 2017     **CoopAlumni fellowship**, *Coop Adriatica 3.0*

## Teaching Activities

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- Sep 2023 - Feb 2024     **Tutor of Geometry**, *Mechanical Eng. Department, University of Genoa (italy)*  
Course coordinator: Prof Victor Lozovanu
- Feb 2022 - Jun 2022     **Tutor of Geometry 3**, *Math. Department, University of Trieste (italy)*  
Course coordinator: Prof Mattia Mecchia
- Sep 2021 - Jan 2022     **Tutor of Algebra 1**, *Math. Department, University of Trieste (italy)*  
Course coordinator: Prof Maria Cristina Pedicchio
- Nov 2020 - Feb 2021     **Tutor of Analysis 1**, *Physics Department, University of Trieste (italy)*  
Course coordinator: Prof Alessandro Fonda

## Scientific Visits

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- Jan 2024 - Apr 2024     **Prof Volkmar Welker**, *Philipps-Universität Marburg, Germany*







## Talks

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- ▶ **Strongly Koszul algebras**  
Seminar: Philipps-Universität Marburg, Germany (invited) Feb 28, 2024
- ▶ **Perazzo algebras and the weak Lefschetz property**  
Seminar: *Algebra & Geometry seminars*, University of Genoa, Italy (invited) Mar 15, 2023  
Seminar: *Problem solving for Mathematics*, University of Stockholm, Sweden (invited) Jan 30, 2023
- ▶ **Straightedge-compass vs origami**  
Seminar: *PhD Seminars*, University of Genoa, Italy Feb 9, 2023


## Attended conferences

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- Jul 2024     **Summer School in Algebraic Combinatorics**, *MPI Leipzig, Germany*
- Apr 2024     **Recent Developments in Commutative Algebra**, *SLMath Berkeley, California (USA)*
- Jun 2023     **Pragmatic 2023 - Cohomology and Frobenius**, *University of Catania, Italy*
- May 2023     **Metric Algebraic Geometry**, *MFO Oberwolfach, Germany*
-  **Workshop on Lefschetz Properties in Algebra, Geometry, Topology and Combinatorics**, *Fields institute Toronto, Canada*
- Sep 2022     **The Strong and Weak Lefschetz Properties**, *Palazzone Cortona, Italy*

## Organizational Experience

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Feb 2023-now     **PhD Seminars**, *University of Genoa, Italy*  
biweekly seminars among PhD students and Postdocs, founded and organized with S. Galanda and G. Schmid





## Membership

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Jan 2023 - now     **Gruppo Nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni**, *Istituto Nazionale di Alta Matematica, Italy.*






## Language skills

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Italian     **native**  
English     **fluent**  
German     **basics**, three years practice in school  
Japanese     **basics**, A2 level, EDISON school, December 20, 2021


## Skills


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Coding     Macaulay 2, Java, PHP, Python, SQL,  $\LaTeX$ .  
Web Dev     HTML5, CSS, JavaScript.  
Certificate     ECDL certificate (May 9, 2014), CISCO certificate.  
Music     Clarinet (since 2010).  
Sport     Judo (2006-2014), fencing (2020-2022), muay-thai (2024-)

## References

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**Prof Aldo Conca**  
Full professor  
University of Genoa (Italy),  
Via Dodecaneso, 35.  
 conca@dima.unige.it

**Prof Emilia Mezzetti**  
Emeritus professor  
University of Trieste (Italy),  
Via Valerio, 12/1.  
 mezzette@units.it

**Prof Rosa Maria Mirò-Roig**  
Full professor  
Universidad de Barcelona (Spain),  
Gran Via des les Corts Catalanes, 585.  
 miro@ub.edu

Genoa,  
September 2024