

# Alex Massarenti

Associate Professor - UNIFE

## Personal information

Place and date of birth: Portomaggiore (Ferrara, Italy); May 9, 1985.

Professional address: University of Ferrara, Department of Mathematics and Computer Science, Via Machiavelli 30, 44121 Ferrara, Italy.

## Present Position

Since 12/2021 **Associate Professor**, *Department of Mathematics and Computer Science, University of Ferrara DMI - UNIFE*, Ferrara, Italy.

## Education

2009–2013 **Ph.D. in Mathematics (Geometry)**, *International School for Advanced Studies (SISSA-ISAS)*, July 5, 2013, Trieste.

Thesis on: "*Biregular and Birational geometry of Algebraic Varieties*", awarded the SISSA Lutman Prize 2014 for the Best Ph.D. Thesis in Mathematics.

Advisor: *Massimiliano Mella*.

Internal Advisor: *Barbara Fantechi*.

2007–2009 **Master Degree (Laurea Specialistica) in Mathematics**, *Università di Ferrara*, July 17, 2009, 110/110 cum Laude.

Thesis on: "*VSP - Varieties of Sums of Powers*".

Advisor: *Massimiliano Mella*.

2004–2007 **Bachelor Degree (Laurea Triennale) in Mathematics**, *Università di Ferrara*, July 20, 2007, 110/110 cum Laude.

Thesis on: "*Elliptic Curves*".

Advisor: *Philippe Ellia*.

1999–2004 **High School Degree**, *Liceo Scientifico T.L. Civita*, June 26, 2004, Codigoro (Ferrara), 100/100 cum Laude.

## Professional Experience

Since 12/2018 **Research and teaching member of the Ph.D. program of the Universities of Parma, Modena-Reggio Emilia and Ferrara**, *University of Ferrara, Department of Mathematics and Computer Science*.

- 2018–2021 **Researcher (RTDb)**, *Department of Mathematics and Computer Science, University of Ferrara DMI - UNIFE, Ferrara, Italy.*
- 2015–2018 **Professor Adjunto**, *Universidade Federal Fluminense UFF, Niterói, Rio de Janeiro, Brazil.*
- 2017–2020 **Research and teaching member of the post-graduate program**, *Universidade Federal Fluminense, Institute of Mathematics and Statistics IME, Niterói, Rio de Janeiro, Brazil.*
- 2013–2015 **Post-doctoral fellow (Pos-doutorado de Excelência)**, *National Institute of Pure and Applied Mathematics IMPA, Rio de Janeiro, Brazil.*

## Scientific Activity

The branch of mathematics in which I am most interested is *Algebraic Geometry*.

- **Research interests:** Birational geometry of projective varieties. Rational, unirational and rationally connected varieties. Conic bundles. Calabi-Yau structures on projective 3-folds. Mori Dream Spaces, log Fano and weak Fano varieties. Toric and Spherical varieties. Fano distributions and foliations on Fano varieties. Moduli spaces and moduli stacks of curves and stable maps. Varieties of Sums of Powers. Tensor identifiability and decomposition problems. Secant varieties and defectiveness.
- **Publications and Preprints:**
  1. M. Bolognesi, A. Massarenti, E. Poma, *Cox rings of blow-ups of multiprojective spaces*, preprint 2023, (arXiv:2308.11283v1).
  2. C. Araujo, A. Corti, A. Massarenti, *Birational geometry of Calabi-Yau pairs and 3-dimensional Cremona transformations*, preprint 2023, (arXiv:2306.00207v2).
  3. A. Laface, A. Massarenti, *Ample bodies and Terracini loci of projective varieties*, preprint 2023, (arXiv:2304.07276v1).
  4. A. Massarenti, M. Mella, *On the birational geometry of conic bundles over the projective space*, preprint 2021, (arXiv:2110.10057v1).
  5. A. Massarenti, M. Mella, *Bronowski's conjecture and the identifiability of projective varieties*, preprint 2022, (arXiv:2210.13524v2).
  6. A. Massarenti, *On the unirationality of quadric bundles*, **Advances in Mathematics**, 2023, Vol. 431, 109235, (arXiv:2204.08793v3).
  7. A. Massarenti, *Quartic and quintic hypersurfaces with dense rational points*, **Forum of Mathematics, Sigma**, 2023, Vol. 11, e55, 1-21, (arXiv:2212.14626v1).
  8. A. Laface, A. Massarenti, R. Rischter, *Decomposition algorithms for tensors and polynomials*, **SIAM Journal on Applied Algebra and Geometry**, 2023, Vol. 7, Issue 1, 264-290, (arXiv:2107.04097v1).
  9. A. Casarotti, E. Corniani, A. Massarenti, *Complete singular collineations and quadrics*, 2023, **International Mathematics Research Notices**, 2023, Issue 18, 15370-15407, (arXiv:2111.02940v3).
  10. A. Laface, A. Massarenti, R. Rischter, *On secant defectiveness and identifiability of Segre-Veronese varieties*, **Revista Matemática Iberoamericana**, 2022, Vol. 38, N. 5, 1605-1635, (arXiv:2006.02395v3).
  11. E. Corniani, A. Massarenti, *Complete symplectic quadrics and Kontsevich spaces of conics in Lagrangian Grassmannians*, **Advances in Mathematics**, 2022, Vol. 397, 108205, (arXiv:2012.13999v2).
  12. A. Barbosa Freire, A. Casarotti, A. Massarenti, *On secant dimensions and identifiability of flag varieties*, **Journal of Pure and Applied Algebra**, 2022, Vol. 225, Issue 6, 106969, (arXiv:1912.00788v1).

13. M. Bolognesi, A. Massarenti, *Birational geometry of moduli spaces of configurations of points on the line*, **Algebra & Number Theory**, 2021, Vol. 15, N. 2, 513-544, (arXiv:1702.00068v2).
14. C. Araujo, T. Fassarella, I. Kaur, A. Massarenti, *On automorphisms of moduli spaces of parabolic vector bundles*, **International Mathematics Research Notices**, 2021, Vol. 2021, Issue 3, 2261–2283, (arXiv:1902.04136v1).
15. A. Barbosa Freire, A. Casarotti, A. Massarenti, *On tangential weak defectiveness and identifiability of projective varieties*, **Annali della Scuola Normale Superiore di Pisa, Classe di Scienze**, 2021, Vol. XXII, 1621-1642, (arXiv:2002.09915v3).
16. C. Lozano Huerta, A. Massarenti, *On the weak Lefschetz principle in birational geometry*, **Notices of the American Mathematical Society**, 2021, Vol. 68, N. 1, 47-55, (arXiv:2009.11408v1).
17. A. Massarenti, *On the birational geometry of spaces of complete forms I: collineations and quadrics*, **Proceedings of the London Mathematical Society**, 2020, Vol. 121, Issue 6, 1579-1618, (arXiv:1803.09161v2).
18. A. Laface, A. Massarenti, R. Rischter, *On Mori chamber and stable base locus decompositions*, **Transactions of the American Mathematical Society**, 2020, Vol. 373, N. 3, 1667-1700, (arXiv:1805.10925v3).
19. A. Massarenti, *On the birational geometry of spaces of complete forms II: skew-forms*, **Journal of Algebra**, 2020, Vol. 546, 178-200, (arXiv:1803.09011v4).
20. A. Barbosa Freire, A. Massarenti, R. Rischter, *Projective aspects of the geometry of Lagrangian Grassmannians and Spinor varieties*, **Bulletin des Sciences Mathématiques**, 2020, Vol. 159, 102824-102850, (arXiv:1812.07474v1).
21. C. Lozano Huerta, A. Massarenti, *The Lefschetz principle in birational geometry: birational twin varieties*, **Birational Geometry and Moduli Spaces**, 2020, Springer INdAM Series, Vol. 39, 109-131, (arXiv:1811.07714v2).
22. C. Araujo, A. Massarenti, R. Rischter, *On non-secant defectivity of Segre-Veronese varieties*, **Transactions of the American Mathematical Society**, 2019, Vol. 371, N. 4, 2255-2278, (arXiv:1611.01674v1).
23. A. Massarenti, R. Rischter, *Non-secant defectivity via osculating projections*, **Annali della Scuola Normale Superiore di Pisa, Classe di Scienze**, 2019, Vol. XIX, 1-34, (arXiv:1610.09332v1).
24. A. Casarotti, A. Massarenti, M. Mella, *On Comon's and Strassen's conjectures*, **Mathematics**, 2018, Vol. 6, N. 11, 217, (arXiv:1810.09338v1).
25. C. Araujo, M. Corrêa, A. Massarenti, *Codimension one Fano distributions on Fano manifolds*, **Communications in Contemporary Mathematics**, 2018, Vol. 20, N. 5, 1750058-1750085, (arXiv:1702.04751v1).
26. M. Bolognesi, A. Massarenti, *Varieties of sums of powers and moduli spaces of  $(1, 7)$ -polarized abelian surfaces*, **Journal of Geometry and Physics**, 2018, Vol. 125, 23-32, (arXiv:1704.06964v2).
27. A. Massarenti, R. Rischter, *Spherical blow-ups of Grassmannians and Mori Dream Spaces*, **Journal of Algebra**, 2018, Vol. 494, 188-219, (arXiv:1705.04972v2).
28. B. Fantechi, A. Massarenti, *On the rigidity of moduli of weighted pointed stable curves*, **Journal of Pure and Applied Algebra**, 2018, Vol. 222, Issue 10, 3058-3074, (arXiv:1701.05861v1).
29. A. Massarenti, *On the biregular geometry of the Fulton-MacPherson compactification*, **Advances in Mathematics**, 2017, Vol. 322, 97-131, (arXiv:1603.06991v2).
30. A. Massarenti, M. Mella, G. Staglianò, *Effective identifiability criteria for tensors and polynomials*, **Journal of Symbolic Computation**, 2018, Vol. 87, 227-237, (arXiv:1703.02637v1).
31. B. Fantechi, A. Massarenti, *On the rigidity of moduli of curves in arbitrary characteristic*, **International Mathematics Research Notices**, Vol. 2017, Issue 8, 2017, 2431-2463, (arXiv:1407.2284v2).

32. A. Massarenti, M. Mella, *On the automorphisms of Hassett's moduli spaces*, **Transactions of the American Mathematical Society**, 2017, Vol. 369, N. 12, 8879-8902, (arXiv:1307.6828v2).
  33. C. Araujo, A. Massarenti, *Explicit log Fano structures on blow-ups of projective spaces*, **Proceedings of the London Mathematical Society**, 2016, Vol. 113, Issue 4, 445-473, (arXiv:1505.02460v1).
  34. M. Bolognesi, A. Massarenti, *Moduli of abelian surfaces, symmetric theta structures and theta characteristics*, **Commentarii Mathematici Helvetici**, Vol. 91, Issue 3, 2016, 563-608, (arXiv:1409.5033v1).
  35. A. Massarenti, *Generalized varieties of sums of powers*, **Bulletin of the Brazilian Mathematical Society**, 2016, Vol. 47, Issue 3, 911-934, (arXiv:1401.2059v1).
  36. A. Massarenti, M. Mella, *On the automorphisms of moduli spaces of curves*, **Springer Proceedings in Mathematics and Statistics**, 2014, Vol. 79, 149-168, (arXiv:1305.6182v2).
  37. A. Massarenti, *The automorphism group of  $\overline{M}_{g,n}$* , **Journal of the London Mathematical Society**, 2014, Vol. 89, 131-150, (arXiv:1110.1464v1).
  38. S. Marchesi, A. Massarenti, *Varieties connected by chains of lines*, **Geometriae Dedicata**, 2014, Vol. 168, Issue 1, 61-68, (arXiv:1106.0124v1).
  39. A. Massarenti, M. Mella, *Birational aspects of the geometry of varieties of sums of powers*, **Advances in Mathematics**, 2013, Vol. 243, 187-202, (arXiv:1010.1707v2).
  40. A. Massarenti, E. Raviolo, *The rank of  $n \times n$  matrix multiplication is at least  $3n^2 - 2\sqrt{2}n^{\frac{3}{2}} - 3n$* , **Linear Algebra and its Applications**, Vol. 438, Issue 11, 2013, 4500-4509, (arXiv:1211.6320v2). Erratum: *The rank of  $n \times n$  matrix multiplication is at least  $3n^2 - 2\sqrt{2}n^{\frac{3}{2}} - 3n$*  (Linear Algebra and Its Applications, 2013, 438:11, 4500-4509), Linear Algebra and Its Applications, Vol. 445, 369-371.
  41. S. Marchesi, A. Massarenti, S. Tafazolian, *Covered by lines and conic connected varieties*, **Le Matematiche**, Vol. LXVI, 2011, Fasc. II, 137-151, (arXiv:1105.5918v2), (Pragmatic 2010).
- **Referee for**: Transactions of the American Mathematical Society, Bulletin of the London Mathematical Society, Inventiones Mathematicae, Journal of Algebra, Journal of Pure and Applied Algebra, Communications in Contemporary Mathematics, Rendiconti del circolo matematico di Palermo, Mediterranean Journal of Mathematics, Annals of the Brazilian Academy of Science, Rendiconti del Seminario Matematico della Università di Padova, Geometriae Dedicata, Linear Algebra and its Applications, Annales de l'Institut Fourier, Manuscripta Mathematica, Épijournal de Géométrie Algébrique, International Mathematics Research Notices, Annali dell'Università di Ferrara, Mathematische Zeitschrift, Portugaliae Mathematica, Collectanea Mathematica. Reviewer for MathSciNet.
  - **Participation in Committees**:
    - Referee for the Ph.D. Thesis "*Waring decompositions via degenerations*" by Francesco Galuppi. Advisor: *Massimiliano Mella*, Università di Ferrara, December 2017.
    - Referee and member of the committee for the Ph.D. Thesis "*A perfect obstruction theory for moduli of coherent systems*" by Giorgio Scatteragga. Advisors: *Barbara Fantechi* and *Fabio Perroni*, SISSA, July 2017.
    - Member of the committee for the Ph.D. Thesis "*Polynomial bounds for automorphism groups of foliations*" by Alan Muniz. Advisor: *Mauricio Corrêa*, UFMG, February 2016.
    - Member of the committee for the Ph.D. Thesis "*Low Degree Rational Curves on Varieties*" by Rafael Lucas de Arruda. Advisor: *Carolina Araujo*, IMPA, October 2015.
    - Member of the committee for the Ph.D. qualification exam of Ageu Barbosa Freire, UFF, October 2016.
    - Member of the committee for the Ph.D. qualification exam of Gulbert Arruda, UFF, October 2015.

- Member of the committee for the Master Thesis "*Examples of limits of Weierstrass points*" by Daniel Santana Rocha. Advisor: Eduardo Esteves, IMPA, September 2015.

## Students

- 2020 – 2024 **Ph.D. Student**, *Elena Poma*, University of Montpellier, IMAG, France.  
(Co-advised with Michele Bolognesi)
- 2018 – 2022 **Ph.D. Student (defended on February 24th, 2022)**, *Elsa Corniani*, Wonderful compactifications and Kontsevich moduli spaces, University of Ferrara UNIFE, Italy.
- 2016 – 2020 **Ph.D. Student (defended on February 14th, 2020)**, *Ageu Barbosa Freire*, On secant defectivity and identifiability of homogeneous varieties, Universidade Federal Fluminense UFF, Niterói, Rio de Janeiro.
- 2014 – 2017 **Ph.D. Student (defended on February 13th, 2017)**, *Rick Rischter*, Projective and birational geometry of Grassmannians and other special varieties, National Institute of Pure and Applied Mathematics IMPA, Rio de Janeiro.  
(Co-advised with Carolina Araujo)
- 2022 – 2023 **Master Student (defended on July 28th, 2023)**, *Gianluca Grassi*, Elliptic curves over finite fields and applications to cryptography, University of Ferrara UNIFE, Italy.  
(Co-advised with Alberto Calabri)
- 2023 – 2024 **Master Student**, *Cinzia Villa*, The Hironaka theorem on resolution of singularities, University of Ferrara UNIFE, Italia.
- 2023 – 2024 **Master Student**, *Simone Breda*, Rational points on del Pezzo surfaces, University of Ferrara UNIFE, Italia.

## Postdoc supervision

- 2023 – 2024 **Postdoc**, *Federico Caucci*, University of Ferrara, DMI, Italy.
- 2023 – 2024 **Postdoc**, *William Daniel Montoya Catano*, University of Campinas, IMECC, Brasil, and University of Ferrara, DMI, Italy.

## Qualifications

- 18/09/2018 - 18/09/2029, Italian scientific qualification (ASN) as Full Professor, 01/A2 - Geometry and Algebra.

## Fund raising and participation in projects

- PI of the PRIN 2022 Project 20223B5S8L, "Birational geometry of moduli spaces and special varieties", with E. Postinghel (University of Trento) and F. Russo (University of Catania).
- GNSAGA-INDAM funds for the organization of "A conference in honor of Philippe Ellia on the occasion of his retirement", Ferrara, 2024.
- LYSM funds for the organization of "A conference in honor of Philippe Ellia on the occasion of his retirement", Ferrara, 2024.
- ICTP-INDAM "Research in Pairs" 2020-2021 with A. Laface and R. Rischter.

- Personal grant, research promotion fund FIR-2019, FIR-2021, FIRD-2023.
- Personal grant, scientific research fund FAR-2019, FAR-2020, FAR-2021, FAR-2022, FAR-2023.
- Research grant CAPES-Cofecub 2018 for the project "Moduli spaces in algebraic geometry and applications" with M. Jardim (UNICAMP), S. Marchesi (UNICAMP), R. Vidal Martins (UFMG), M. Bolognesi (Université de Montpellier), J. Vallès (Université de Pau), M. Corrêa (UFMG), D. Faenzi (Université de Bourgogne).
- Personal grant PQ-2016 from CNPq for the project "Birational and projective geometry of algebraic varieties, moduli spaces of curves and foliations".
- Personal grant for recently hired researchers 2015 from FAPERJ.
- Research grant "Universal 2016" from CNPq with M. Corrêa (UFMG).
- Grant for young researcher "Emergente 2016" from FAPERJ for the project "Recent directions in moduli spaces and related topics" with O. Lorscheid (IMPA), R. Heluani (IMPA), E. Cotterill (UFF), M. Pacini (UFF), C. Salgado (UFRJ), H. Hassanzadeh (UFRJ).
- Member of GNSAGA (Gruppo Nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni) of INdAM (Istituto Nazionale di Alta Matematica), from January 1, 2010.

## Awards

- SISSA Lutman Prize 2014 for the Best Ph.D. Thesis in Mathematics.
- CNPq Research Productivity Grant 2016.

## Teaching activity

- Geometry I (Linear Algebra) for mathematics (UNIFE, September 2023 - May 2024).
- Algebraic Geometry II (UNIFE, October - December 2022).
- Algebraic Geometry (UNIFE, February - May 2022, February - May 2023).
- Geometry I (Linear Algebra) for physics (UNIFE, September - November 2020).
- Mathematics for biology (UNIFE, October 2020, October 2021, October 2022, October 2023).
- Exercise classes of geometry for engineering (May 2020).
- Ph.D. course, *Introduction to toric geometry and Cox rings* (Escola Transguanabara de Geometria Algébrica, UFF & IMPA, February 2020).
- Ph.D. and Master course, *Toric geometry* (UNIFE, November - December 2019).
- Mathematics and informatics (UNIFE, February - May 2019, September - December 2019, September - December 2020, September - December 2021, February - May 2023).
- Calculus 3A, integral calculus of functions of several variables (UFF, March - July 2018).
- Calculus 2A, integral calculus of functions of one variables and ordinary differential equations (UFF, March - July 2017).
- Calculus 1A, differential calculus of functions of one variable (UFF, March - July 2017).
- Calculus 2B, differential calculus of functions of several variables (UFF, November 2015 - March 2016, April - August 2016, August - December 2016, August - December 2017, August - December 2018).
- Ph.D. course, *Topics in Algebraic Geometry: Cox Rings* (IMPA, January - February 2015).
- Ph.D. course, *Algebraic Geometry I* (IMPA, August - November 2014).

## Visits

- June 12-18, 2023: Brown University (Providence, Rhode Island, USA), visiting *Brendan Hassett*.
- October 11-20, 2018: Universidad de Concepción (Concepción, Chile), visiting *Antonio Laface*.
- July 28 - August 1, 2017: Imperial College (London), visiting *Alessio Corti*.
- January 9-14, 2017: Institut Fourier (Grenoble), visiting *Stéphane Druel*.
- December 2-5, 2014: Università di Torino, visiting *Cinzia Casagrande*.
- October 5-12, 2014: UFMJ - Universidade Federal de Minas Gerais in Belo Horizonte, visiting *Maurício Corrêa*.
- May - June, 2014: Université de Rennes 1, visiting *Michele Bolognesi*.
- March - April, 2013: Institut de Mathématiques de Jussieu in Paris, visiting *Alessandro Chiodo*.
- March - April, 2012: ETH in Zürich, visiting *Rahul Pandharipande*.

## Talks as invited speaker in conferences

- February 17, 2012, *The automorphism group of  $\overline{M}_{g,n}$* , TULFS VII - A.G. in Trieste-Udine-Ljubljana-SISSA-Ferrara (Trieste).
- May 25, 2012, *The automorphism group of  $\overline{M}_{g,n}$* , Giornate di Geometria Algebrica ed Argomenti Correlati XI (Centro Ennio De Giorgi - SNS, Pisa).
- June 21, 2012, *On the automorphisms of moduli spaces of curves*, GAeL XX 2012 - Géométrie Algébrique en Liberté (Institut Fourier, Grenoble).
- July 4, 2012, *The 2-Secant varieties of Veronese varieties*, Tensors: Waring problems and Geometric Complexity Theory (Cortona).
- June 14, 2013, *On the automorphisms of Hassett's moduli spaces*, Recent trends in the geometry of moduli spaces of curves (SISSA, Trieste).
- July 4, 2013, *Automorphisms of weighted pointed stable curves*, ACA 2013 - Arithmetic of algebraic curves (Málaga).
- February 21, 2014, *The rigidity of  $\overline{M}_{0,n}$  in positive characteristic*, LEGAL 2014 - Liberdade em Geometria Algébrica (Teresópolis, Rio de Janeiro).
- March 28, 2014, *Varieties of Sums of Powers*, Colóquio de Geometria e Aritmética (UFF - Universidade Federal Fluminense, Rio de Janeiro).
- July 29, 2014, *Mori Dream Spaces obtained by blowing-up points on a smooth quadric hypersurface*, XXIII Escola de Álgebra (Universidade Estadual de Maringá, Maringá, Brazil).
- April 6, 2015, *On the automorphisms of moduli spaces of curves*, Moduli spaces and enumerative geometry, IMPA (Rio de Janeiro).
- June 4, 2015, *Explicit log Fano structures on blow-ups of projective spaces*, II Latin American School of Algebraic Geometry and Applications (II ELGA), Cabo Frio (Brazil).
- June 17, 2015, *Automorphisms of Kontsevich moduli spaces*, AGaFe - A conference in honor of Philippe Ellia on his 60th birthday, Università di Ferrara.
- July 29, 2015, *On the biregular geometry of Fulton-MacPherson configuration spaces*, 30° Colóquio Brasileiro de Matemática (IMPA, Rio de Janeiro).
- August 31, 2016, *On fibrations of Fulton-MacPherson configuration spaces*, First Joint Meeting Brazil-Italy in Mathematics (IMPA, Rio de Janeiro).

- February 7, 2017, *The F-conjecture for GIT configurations of points*, 14th ALGA meeting - Commutative Algebra and Algebraic Geometry (IMPA, Rio de Janeiro).
- January 10, 2018, *On the birational geometry of moduli spaces of points on the line*, Korean-Italian Meeting on Algebraic Geometry 2018 (KIAS, Seoul).
- April 27, 2018, *On the birational geometry of moduli spaces of points on the line*, Colóquio de Geometria e Aritmética (UFRJ - Universidade Federal do Rio de Janeiro).
- June 14, 2018, *Birational geometry of moduli spaces of complete collineations*, Birational Geometry and Moduli Spaces (Indam Workshop), (Sapienza University, Rome).
- June 20, 2018, *On the birational geometry of moduli spaces of points on the line*, Summer School on Geometry of Moduli Spaces of Curves, (ICTP, Trieste).
- August 16, 2018, *On the biregular geometry of the Fulton-MacPherson compactification*, Tropical Geometry and Moduli Spaces (Official satellite meeting of the International Congress of Mathematicians 2018, Rio de Janeiro), (Cabo Frio, Rio de Janeiro, Brazil).
- October 26, 2018, *On Mori chamber and stable base locus decompositions*, Colóquio de Geometria e Aritmética (UFRJ - Universidade Federal do Rio de Janeiro).
- September 4, 2019, *On secant defectivity of homogeneous varieties*, XXI meeting of the Italian mathematical society (University of Pavia).
- February 4-13, 2020, *Introduction to toric geometry and Cox rings* (mini course), Escola Transguanabara de Geometria Algébrica (UFF & IMPA, Rio de Janeiro).
- September 21, 2021, *Calabi-Yau structures on conic bundles*, Riposte Armonie, Algebraic Geometry in Cetraro 2021 together with Ciro Ciliberto, (Cetraro, Italy).
- May 6, 2022, *On the unirationality of quadric bundles*, IMPANGA, (IMPAN, Warsaw).
- October 27, 2022, *Bronowski's conjecture and the identifiability of projective varieties*, AGATES - Algebraic Geometry with Applications to Tensors and Secants (Geometry of secants workshop), (IMPAN, Warsaw).
- September 26, 2023, *On the unirationality of quadric bundles and hypersurfaces*, Algebraic Geometry workshop in Bologna, (University of Bologna).

## Invited Talks

- *Birational geometry of Varieties of Sums of Powers*
  - April 22, 2016, Università di Siena.
- *The automorphism group of  $\overline{M}_{g,n}$* 
  - October 23, 2011, SISSA (Trieste).
  - February 7, 2012, Università di Ferrara.
  - March 16, 2012, ETH (Zürich).
- *Kontsevich's moduli spaces, Gromov-Witten invariants and quantum cohomology*
  - May 2, 2012, UZH - Institut für Mathematik (Zürich).
- *On the automorphisms of Hassett's moduli spaces*
  - April 18, 2013, Institut de Mathématiques de Jussieu (Paris).
- *On the automorphisms of moduli spaces of curves*
  - September 25, 2013, IMPA (Rio de Janeiro).

- October 8, 2013, UFF - Universidade Federal Fluminense (Rio de Janeiro).
- October 10, 2014, UFMJ - Universidade Federal de Minas Gerais (Belo Horizonte).
- March 26, 2015, UFRJ - Universidade Federal do Rio de Janeiro (Rio de Janeiro).
- January 5, 2015, Institut Fourier (Grenoble).
- August 20, 2015, PUC - Pontifícia Universidade Católica, (Rio de Janeiro).
- January 5, 2016, uB - Université de Bourgogne, (Dijon, France).
- *Weak Fano and log Fano varieties obtained by blowing-up points in  $\mathbb{P}^n$*
- September 2, 2014, UFF - Universidade Federal Fluminense (Rio de Janeiro).
- September 17, 2014, IMPA (Rio de Janeiro).
- October 23, 2014, UNICAMP - Universidade Estadual de Campinas (Campinas, Brazil).
- December 3, 2014, Università di Torino.
- *Mori Dream Spaces and classical projective geometry*
- July 8, 2015, SISSA (Trieste).
- *On the biregular geometry of Fulton-MacPherson configuration spaces*
- April 21, 2016, Università di Firenze.
- April 26, 2016, Università di Bologna.
- *On the birational geometry of moduli spaces of points on the line*
- January 9, 2017, Institut Fourier (Grenoble, France).
- January 10, 2017, Université de Poitiers (Poitiers, France).
- *Identifiability of tensors and polynomials*
- April 3, 2018, UNIFEI - Universidade Federal de Itajubá (Itajubá, Brazil).
- *On secant defectivity of homogeneous varieties*
- October 23, 2018, Seminario Salomonico, UFF - Universidade Federal Fluminense (Rio de Janeiro).
- November 14, 2018, IMPA (Rio de Janeiro).
- *Birational geometry of complete collineations*
- March 28, 2019, Università di Bologna.
- October 3, 2019, Università di Trento.
- December 18, 2019, Politecnico di Torino.
- *Complete symplectic quadrics and Kontsevich moduli spaces of conics in Lagrangian Grassmannians*
- December 11, 2020, Università di Trento.
- April 7, 2021, Brazilian algebraic geometry seminar, University of Campinas.
- *On secant defectiveness of toric varieties*
- January 15, 2021, Università di Trieste.
- *Birational geometry of Calabi-Yau pairs and 3-dimensional Cremona transformations*
- April 13, 2021, Università di Bologna.
- *Decomposition algorithms for tensors and polynomials*
- October 27, 2021, Università di Bologna.
- *Wonderful compactifications and Kontsevich moduli spaces*
- December 15, 2021, Università dell'Insubria (Como, Italy).
- *On the unirationality of quadric bundles and hypersurfaces*

- November 15, 2022, Università degli Studi di Roma "Tor Vergata" (Rome).
- December 7, 2022, Seminario nacional de geometría algebraica, Universidad Nacional Autónoma de México (Mexico City).
- January 30, 2023, Politecnico di Torino.
- August 3, 2023, University of Nottingham.

## Organizational Experience

- Co-organizer with L. Lombardi, L. Tasin and S. Urbinati of the workshop: "Derived Categories and Birational Geometry", June 30 - July 1, 2022, Università di Milano.
- Co-organizer with V. Beorchia, F. Galuppi, L. Lombardi, L. Tasin and S. Urbinati of the workshop: "Projective and birational higher dimensional geometry", April 9, 2021.
- From 2019 co-organizer with L. Lombardi, L. Tasin and S. Urbinati of the cycle of mathematical conferences: "Topics in Birational Algebraic Geometry", Ferrara-Milano-Udine.
- Co-organizer of the "UFF algebraic geometry seminar", UFF, 2015-2018.
- Co-organizer of the "IMPA algebra weakly seminar", IMPA, 2013-2015.

## Languages

- *Italian* (Mother tongue).
- *English* (Fluent).
- *Portuguese* (Fluent), Celpe-Bras - Certificado de Proficiência em Língua Portuguesa para Estrangeiros (Certificate of Proficiency in Portuguese for Foreigners).
- *French* (Intermediate).

## Computer skills

- Very good knowledge of LaTeX.
- Good knowledge of MacAulay2, Bertini, Magma, Matlab, Mathematica and Maple.