

CURRICULUM VITAE

Lucia Caporaso

Born in Roma, Italy, on May 22, 1965

Current Employment:

Professor of Mathematics

Department of Mathematics and Physics - Roma Tre University - Roma - Italy.

Education:

- Laurea in Matematica *con lode* - Sapienza Università di Roma - 1989
(Undergraduate Advisor: Prof. Enrico Arbarello).
- Ph.D. in Mathematics - Harvard University - 1993
(Ph.D. Advisor: Prof. Joe Harris).

Languages:

- *Mother tongue:* Italian
- *Other languages:* English (fluent), French (fluent), German (elementary).

Professional Experience:

- Benjamin Pierce Assistant Professor of Mathematics, Harvard University, Cambridge, USA, 1993-97.
- Ricercatore Universitario, Università di Roma Tor Vergata, Italy. 1994-97
(On leave for scientific reasons for 12 months).
- Assistant Professor of Mathematics, Massachusetts Institute of Technology, Cambridge, USA. 1997-2001 (Maternity leave 6+6 months).
- Associate Professor (Professore Associato), Università del Sannio, Benevento, Italy. 1999-2001. (Maternity leave 12 consecutive months).
- Professor of Mathematics (Professore Ordinario - SSD MAT/03 - SC A1/02), Roma Tre University, Roma, Italy. Since 2001.

Long Term Visiting Positions:

- Sapienza, Università di Roma Italy (September-December 1998).
- Università di Roma, Roma TRE, Italy (May 1999).
- IRMA, Université de Strasbourg, France (October-December 2000).
- Université de Nice, France (February-May 2001).
- MSRI, Berkeley, USA (January-April 2009 and January-May 2019).

Academic Distinctions:

- *Sloan* foundation doctoral fellow, 1992-93.
- *Sloan* foundation post-doctoral research fellow, 1994-97.
- Invited speaker, *AMS* symposium on Algebraic Geometry, Santa Cruz 1995.
- Invited speaker, *ECM* (European Congress of Math.) Budapest 1996.
- Prize *Bartolozzi*, *UMI (Unione Matematica Italiana)* 1997.
- Plenary Speaker, *XX Journées Arithmétiques*, Univ. de Limoges 1997.
- Medaglia “*Le Scienze*” for Mathematics, 2000.
- Invited speaker, *AMS* symposium on Algebraic Geometry, Seattle 2005.
- Invited speaker, *AMS* symposium on Algebraic Geometry, Salt Lake City 2015.
- Plenary speaker, Congresso *UMI.*, Univ. of Siena 2015.
- Plenary Speaker, 31st *Brazilian Math. Colloquium*, IMPA Rio de Janeiro 2017.
- Invited speaker - *ICM* (International Congress of Math.) Rio de Janeiro 2018.
- Eisenbud Professor, *MSRI* 2019.
- Socio Corrispondente dell’*Accademia delle Scienze*, Torino - Since 2019.

Research Awards (selection):

- Principal Investigator in NSF Award N. 9505140 (National Science Foundation, USA) Title *Kodaira Dimensions of Fiber Products and the Distribution of Rational Points* - 1995-1997
- Principal Investigator in NSF Award N. 9801465 (National Science Foundation, USA) Title *Linear Systems of Plane Curves With Assigned Singularities*-1998-2001
- Italian Chair of GDRE-GRIFGA “Gruppo Di Ricerca Europeo: Gruppo di Ricerca Italo Francese in Geometria Algebrica”. 2008-2012 (French Chair: Prof. Olivier Debarre) Funded by INdAM and CNRS.
- Member of PRIN 2000 - MM01A72181 (National Chair: Alessandro Verra).
- Member of PRIN 2002 - 2002012934 (National Chair: Alessandro Verra).
- Member of PRIN 2004 - 2004017037 (National Chair: Alessandro Verra).
- Member of PRIN 2006- 2006011222 (National Chair: Alessandro Verra).
- Member of PRIN 2008- 2008F3Z77Z (National Chair: Alessandro Verra).
- Member of PRIN 2010- 2010S47ARA (National Chair: Alessandro Verra).
- Member of PRIN 2015- 2015EYPTSB (National Chair: Alessandro Verra).
- Principal Investigator of PRIN 2017 - 2017SSNZAW. Title *Advances in Moduli Theory and Birational Classification*.
- Roma Tre Chair of PRIN 2022 - 2022L34E7W. Title *Moduli Spaces and Birational Geometry*.

Selected Academic Services (International):

- Member of Review Panels in mathematics for the USA National Science Foundation (NSF). 2003, 2004, 2005, 2007, 2010.
- Member of *Exzellenzinitiative Panel* for the Deutsche Forschungsgemeinschaft (DFG) - Germany. 2006.
- Member of the Italian Delegation at the International Mathematical Union General Assembly in Bangalore, India 2010, and in Sao Paulo, Brazil 2018.
- Member of Mathematics Evaluation Panels for the Swedish Research Council (SRC) - Sweden, 2011 - 2015.
- Member of *Scientific Advisory Board of Max Planck Institute for Mathematics and the Sciences* - Germany. 2018-2022.
- Member of *Scientific Steering Committee of the Isaac Newton Institute*, Cambridge - UK. 2024-2028.
- Member of Hiring Committees for Professorships in Mathematics for: *KTH* (Stockholm), *ICTP* (Trieste), *University of Bergen*, *Harvard University* (Cambridge MA), *ETH* (Zurich).

Selected Academic Services (Italian):

- Chair of Ph.D. Program in Mathematics at Roma Tre Univ. 2002-2006.
- Member of ANVUR Group of Experts for Mathematics, GEV01, in the National Evaluation of Research. 2012-2013.
- Head of Dept. of Mathematics and Physics at Roma Tre Univ. 2013 - 2018.
- Chair of Board of Directors of Roma Tre Univ. 2013-2015.
- Member of Academic Senate of Roma Tre Univ. 2015-2018.
- Member of Administrative Council of Roma Tre Univ. 2019-2022.
- Member of Hiring Committees for Professorships in Mathematics for the Universities of: *Perugia*, *Sapienza* (Roma), *Torino*, *Firenze*, *Roma Tre*.

Editorial Activity:

- *Transactions of the American Mathematical Society* - AMS (2015-2021).
- *Memoirs of the American Mathematica Society* - AMS (2015-2021).
- *Algebraic Geometry* - Foundation Compositio Mathematica (current).
- *Rendiconti del Circolo Matematico di Palermo* - Springer (current).
- *Lecture Notes of the Unione Matematica Italiana*, Editor in Chief - Springer (current).
- *Bulletin of the Brazilian Mathematical Society - New Series* - Springer (current).
- *Forum of mathematics, Pi* - Cambridge University Press (current).
- *Forum of mathematics, Sigma* - Cambridge University Press (current).

Outreach activities (selection)

- Editor of *Maddmaths! (Matematica Divulgazione Didattica)* 2013-2018.
- Contribution to *Pink Camp* - Univ. L'Aquila 2019.
- Contribution to *Corsi d'Orientamento della Scuola Normale Superiore* on line (do to pandemic) 2020.
- Contribution to *ASL (Alternanza Scuola Lavoro)* Roma Tre University 2019, 2021.
- Member of the scientific board of LYSM (Laboratoire Ypatia des Sciences Mathématiques) since 2022.

Teaching:

- Harvard University 1993-1997
 - Undergraduate courses: Calculus. Algebra. Undergraduate Algebraic geometry. Complex Analysis. Topology.
 - Graduate courses: Geometric Invariant Theory. Graduate Algebraic geometry.
- Massachusetts Institute of Technology 1997-1999
 - Undergraduate courses: Analysis on Manifolds. Linear Algebra.
 - Graduate courses: Complex Algebraic Surfaces.
- Roma Tre University 2001-2023
 - Undergraduate courses: Algebra. Algebra Lineare. Analisi Complessa. Analisi Funzionale. Geometria Algebrica. Superfici di Riemann. Teoria dei Grafi. Teoria dei Gruppi. Topologia Algebrica. Topologia Generale.
 - Graduate courses: Geometria Algebrica. Superfici algebriche e Geometria Enumerativa. Teoria dell'Intersezione. Teoria dei Moduli. Fondamenti e storia della geometria. Tropical methods in algebraic geometry.

Supervision of juniors:

- More than 15 master theses, more than 10 PhD theses, more than 10 postdocs.

Special Courses and Lecture Series (selected):

- *EAGER school on Moduli of Curves*
Levico - Trento, August 2001.
- *School "Pragmatic" 2004*
Università di Catania - August/September 2004.
- *School "Compactified Jacobians"*
Istituto Superiore Tecnico - Lisbon- February 2010.
- *GAEL 2011 "Brill Noether theory"*
Konrad-Zuse-Zentrum - Freie Universität - Berlin- July 2011.
- *Summer School Gulbenkian Foundation "What is algebraic geometry?"*
Lisbon 14 to 18 July 2014.
- *WAM2015 "Aspects of Algebraic Geometry - Moduli space of Curves"*
Institute for Advanced Study - Princeton USA- May 2015.

- *Geometry, Algebra and Combinatorics of Moduli Spaces and Configurations*
“Combinatorics of moduli spaces of curves”
Dobbiaco - Italy - February 2017.
- *New perspectives in Gromov-Witten theory* “From quantum cohomology to moduli of spin curves”
IMJ-PRG Sorbonne Université - Paris - June 2019.
- *SinG school: Tropical insights in algebraic geometry and moduli theory*
Trento University - September 2025.

Invited Addresses at Conferences:

1. *Workshop Moduli of Curves and Abelian Varieties*
MSRI-Berkeley USA - 1992.
2. *Conference “Topology of the Moduli Space of Curves”*
RIMS -Kyoto - Japan - 1993.
3. *The moduli space of curves*
Texel Island - The Netherlands - 1994.
4. *Incontro Italiano di Teoria dei Numeri*
Roma Tre University - Italy - 1995.
5. *AMS Summer Research Institute on Algebraic Geometry*
University of Santa Cruz - USA - 1995.
6. *Conference “Superficie algebriche”*
Accademia Nazionale dei Lincei di Roma - Italy - 1996.
7. *Second European Congress of Mathematicians*
Budapest - Hungary - 1996.
8. *Europroj Annual Conference.*
University of Liverpool - U.K - 1996.
9. *Journées Arithmétiques 1997.*
Université de Limoges - France - 1997.
10. *Midwestern Algebraic Geometry Conference.*
Northwestern University - Chicago - USA - 1998.
11. *Conference “Advanced Algebraic Geometry”*
ICTP - Trieste - Italy -1999.

12. *Workshop “Low-dimensional complex geometry”*
Oberwolfach - Germany - 1999.
13. *Second Conference on Intersection Theory*
Università of Bologna - Italy -1999.
14. *GAC - Géométrie Algébrique Complexe*
Luminy - France - 2000.
15. *ALGA 2001” 4th Brazilian meeting in Commutative Algebra and Algebraic Geometry.*
Angra dos Reis - Brasil - 2001.
16. *Conference in honor of Steven Kleiman 60th birthday*
IMPA - Rio de Janeiro - Brasil - 2002.
17. *The Fano Conference*
Torino - Italy - 2002.
18. *Moduli, Lie Theory, Interactions With Physics*
Cortona - Italy - 2003.
19. *Projective varieties with unexpected properties: In honor of Giuseppe Veronese*
Università di Siena - Italy - 2004.
20. *Conference “Diophantine Geometry”*
University of Goettingen - Germany - 2004.
21. *Algebraic Geometry, Symplectic Geometry and Theoretical Physics: a conference celebrating the contribution of women researchers*
University of Philadelphia - USA - 2005.
22. *AMS Summer Research Institute on Algebraic Geometry*
University of Seattle - USA - 2005.
23. *Introductory Workshop in Rational and Integral Points*
MSRI Berkeley - USA - 2006.
24. *Mathematics and its Applications - Special Session in Algebraic Geometry*
University of Torino - Italy - 2006
25. *Topology of Complex Algebraic Varieties.*
Università di Alghero - Italy - 2006.
26. *Conference on Curves and Abelian Varieties, in honor of Roy Smith’s 65th birthday.*
University of Georgia at Athens - USA - 2007.

27. *Conference in Algebraic Geometry, in honor of Arnaud Beauville's 60th birthday.*
IHP Paris - France - 2007.
28. *Algebraic geometry in higher dimensions*
Levico - Italy - 2007
29. *Aspects of moduli.*
Centro de Giorgi, Scuola Normale Superiore di Pisa - Italy - 2008.
30. *Conference in Algebraic Geometry.*
Lorentz Institute - Leiden - The Netherlands - 2008.
31. *Conference "Algebraic Geometry D-modules and foliations".*
University of Buenos Aires - Argentina - 2008.
32. *Conference "Moduli Spaces of Geometric and Algebraic Structures".*
Max Plank Institute - Bonn - Germany 2008.
33. *North German Algebraic Geometry Seminar.*
Humboldt University - Berlin - Germany - 2008.
34. *Conference "Connections for Women"*
Mathematical Sciences Research Institute - Berkeley - U.S.A - 2009.
35. *Workshop "Orbifolds and moduli spaces in tropical geometry".*
Les Diablerets - Switzerland- 2010.
36. *Congrès de Géométrie Algébrique.*
IHP Paris - France- July 2010.
37. *Algebraic Geometry North Eastern Seminar (AGNES).*
MIT - Cambridge - USA 2011.
38. *A celebration in Algebraic Geometry, in honor of Joe Harris 60th birthday.*
Harvard University - Cambridge - USA - 2011.
39. *Tropical Geometry Workshop.*
CIEM Castro-Urdiales - Spain - 2011.
40. *Geometry and Topology of Moduli.*
Humboldt University - Berlin - Germany 2012.
41. *Géométrie Algébrique en Liberté (GAEL) XX.*
Université de Grenoble - France - 2012.

42. *Conference in Algebraic and Complex Geometry in honor of Klaus Hulek 60th Birthday.*
Leibniz Universität - Hannover - Germany - 2012.
43. *Effective methods in Algebraic Geometry (MEGA).*
University of Frankfurt - Germany- 2013.
44. *Geometria in Bicocca.*
University of Milano Bicocca - Italy - 2014.
45. *Congresso Unione Matematica Italiana*
University of Siena - Italy - 2015.
46. *AMS Algebraic Geometry Symposium in algebraic geometry*
University of Utah - Salt Lake City - USA -2015.
47. *AGNES 2016*
Yale University - USA - 2016.
48. *First Joint Meeting Brasil-Italy in Mathematics*
IMPA Rio de Janeiro - Brasil - 2016.
49. *31st Brazilian Mathematics Colloquium*
Rio de Janeiro - Brasil - 2017.
50. *Modern Algebra and Classical Geometry - Together with Edoardo Sernesi.*
Trento - Italy- 2017.
51. *Algebraic Geometry Conference - Arnaud Beauville's 70th Birthday.*
Academy of Mathematics and System Sciences, CAS, Beijing - China - 2017.
52. *Workshop on Complex Algebraic Geometry - Pirola 60th Birthday.*
University of Barcelona - Spain - 2018.
53. *International Congress of Mathematicians.*
Rio de Janeiro - Brazil - 2018.
54. *Conference Connections for Women*
Mathematical Sciences Research Institute - Berkeley U.S.A - 2019.
55. *Conference Ypatia 2022*
École française de Rome - Italy - 2022
56. *Winter Meeting in Algebra and Geometry*
Università Roma Tre - Italy - 2022.

57. *Higher-dimensional Algebraic Geometry - in celebration of James McKernan's 60th birthday*
University of California at San Diego - USA - 2024.
58. *Perspectives of Hurwitz Theory: Moduli Spaces, Topological Recursion, and Tropical Geometry*
Trinity College - Ireland - 2025.
59. *New Frontiers in Algebra and Geometry*
Accademia Nazionale dei Lincei - Roma - Italy 2025.
60. *Geometry, arithmetic, cohomology of higher dimensional varieties*
Università di Bologna Italy 2026

Special Colloquia and General Audience Lectures (selection):

1. Conference *Women in Sciences*
Title: "Magical pairs of conics".
Tor Vergata University - Villa Mondragone Frascati - Italy - 2005.
2. Program *I lincei per la scuola*
Title: "Geografia dei numeri".
Accademia dei Lincei - Roma - Italy -2011.
3. *Corso d'Orientamento della Scuola Normale Superiore*
Title: "Geografia dei numeri".
SNS Pisa - Cortona - Italy -2011.
4. *Corso d'Orientamento della Scuola Normale Superiore*
Title: "Geometria Enumerativa".
Accademia dei Lincei - Roma - Italy -2019.
5. *I Mercoledì dell'Accademia*
Title: "Varietà di varietà: La classificazione nella geometria algebrica."
Accademia delle Scienze - Turin - Italy -2020.
6. *May 12 - Celebrating Women in Mathematics*
Title: "Varieties of Varieties after Mirzakhani."
Tor Vergata University - Rome - Italy - 2020.
7. Colloquium *Patavina*
Title: Classification of algebraic varieties
Title: "Moduli spaces and rational points of algebraic curves"
University of Padova - Italy - 2021.
8. Colloquium *INdAM*
Title: "Moduli spaces and rational points of algebraic curves"
University of Tor Vergata - Rome - Italy -2022.

9. Colloquium *De Giorgi*
Title: “Uniform boundedness for rational points on curves”
Scuola Normale Superiore - Pisa - Italy -2022.
10. Lezione Lagrangiana
Title: “Geometric classification from the arithmetic perspective”
University of Turin - Italy - 2024.
11. *La Scienza incontra Torino: Dialoghi sulla Matematica Contemporanea*
Title: “ L’influenza di Bernhard Riemann sulla matematica moderna, in occasione del bicentenario della sua nascita”
Circolo dei Lettori di Torino - Italy - 2025.

Organization of conferences

1. *Perspectives in Classification and Moduli Theory*
October 2002. Cortona - Italy
<http://ricerca.mat.uniroma3.it/Conferenze/cortonaPCMT/index.html>
2. *Classical Algebraic Geometry Today*
January 2009. MSRI - USA
<http://www.msri.org/workshops/470>
3. *Moduli Spaces in Algebraic Geometry*
February 2013. Oberwolfach - Germany
4. *Introductory Workshop on Combinatorial Algebraic Geometry*
August 15-19, 2016. Fields Institute -Toronto - Canada
5. *Recent Progress in Moduli Theory*
May 2019. Berkeley - USA
<http://www.msri.org/workshops/869>
6. *100 years UMI - 800 years Università di Padova*
May 2022. Padova - Italy
<https://www.100umi800unipd.it/>
7. *Algebraic Geometry in Roma Tre*
June 2022. Roma -Italy
<http://ricerca.matfis.uniroma3.it//users/moduli/verra70/>
8. *AMS-UMI Joint Meeting*
July 2024. Palermo - Italy
<https://umi.dm.unibo.it/jm-umi-ams/>

Published articles

1. *A compactification of the Universal Picard Variety over the Moduli Space of Stable Curves.* Journal of the AMS. Vol. 7, N. 3, July 94 p. 589-660.
2. *Distribution of Rational points and Kodaira dimension of fiber products.* The Moduli space of curves, Progress in mathematics n. 129, Birkhäuser (1995) p.1-12.
3. *How many rational points can a curve have?* With Joe Harris e Barry Mazur. The Moduli space of curves, Progress in mathematics n. 129, Birkhäuser (1995) p.13-32.
4. *Uniformity of Rational Points.* With Joe Harris and Barry Mazur. Journal of the AMS. Vol.10, N.1, Jan. 97, p. 1-35.
5. *Counting rational points on algebraic curves.* Rend. Sem. Mat. Politecnico dell'Un. di Torino, Vol. 53,3 (1996) Number theory.
6. *Enumeration of rational curves: the rational fibration method.* With Joe Harris. Compositio Mathematica 113, p.209-236 (1998).
7. *Parameter spaces for curves on surfaces and enumeration of rational curves.* With Joe Harris. Compositio Mathematica 113, p.155-208 (1998).
8. *Counting plane curves of any genus.* With Joe Harris. Inventiones mathematicae Vol 131(2), p. 345-392 (1998).
9. *Counting curves on surfaces: a guide to new techniques and results.* (1997) European Congress of Mathematics - Progress in mathematics n. 168, Birkhäuser, pp 136-149.
10. *On certain uniformity properties of curves over function fields.* (1999) Compositio Mathematica Vol 130 No 1 pp 1-19. January 2002.
11. *Recovering plane curves from their bitangents.* With Edoardo Sernesi. Journal of Algebraic geometry 12 (2003) no. 2, pp. 225-244.
12. *On modular properties of odd theta-characteristics.* In "Advances in Algebraic Geometry Motivated by Physics" Contemporary Mathematics Vol 276, 2001 p.101-114.
13. *Remarks about rational points of curves over function fields.* Transactions of AMS 355, Number 9, pp 3475-3484 (2003).
14. *Characterizing curves by their odd theta-characteristics.* With Edoardo Sernesi. Journal für die reine und angewandte Mathematik 562 101-135 (2003).

15. *Combinatorial properties of stable spin curves*. With Cinzia Casagrande. Communications in Algebra: Special issue in Honor of Prof. S.Kleiman. Vol. 31, N. 8 pp 3653-3672 (2003).
16. *Moduli theory and arithmetic of algebraic varieties*. (2003) Proceedings of the Fano conference. A. Collino, A. Conte, M. Marchisio pp. 353-379.
17. *Moduli of roots of line bundles on curves*. With Cinzia Casagrande and Maurizio Corralba. Transactions of the American Mathematical Society 359 (2007), 3733-3768.
18. *Néron models and compactified Picard schemes over the moduli stack of stable curves*. American Journal of Mathematics, Vol 130, 1-47 (2008).
19. *On Abel maps of stable curves*. With Eduardo Esteves. Michigan Mathematical Journal, Vol. 55, 575- 607 (2007).
20. *Naturality of Abel maps*. Manuscripta Mathematica no. 123, 53-71 (2007).
21. *Compactified Jacobians, Abel maps and Theta divisors*. In “Curves and Abelian varieties: international conference, in honor of Roy Smith’s 65th birthday. March 30-April 2, 2007, University of Georgia, Athens.” Contemporary Mathematics Volume 465 AMS Bookstore, 2008.
22. *Geometry of the theta divisor of a compactified jacobian*. Journal of the European Mathematical Society 11, 1385 - 1427 (2009).
23. *Abel maps of Gorenstein curves*. With Eduardo Esteves and Juliana Coelho. Rendiconti del Circolo Matematico di Palermo - Volume 57, Number 1 April, 2008, 33-59.
24. *Brill-Noether theory of binary curves*. Mathematical Research Letters - Volume 17 - Issue 2/March 2010 243-262.
25. *Linear series on semistable curves*. Int. Math. Res. Not. (2011), no. 13, 2921–2969.
26. *Torelli theorem for graphs and tropical curves*. With Filippo Viviani. Duke Mathematical Journal, Vol. 153. No1 (2010) 129-171.
27. *Torelli theorem for stable curves*. With Filippo Viviani. J. Eur. Math. Soc. 13 (2011), no. 5, 1289-1329.
28. *Geometry of tropical moduli spaces and linkage of graphs*. Journal of Combinatorial Theory, Series A. 119 (2012) 579-598.
29. *Compactified Jacobians of Néron type*. Rend. Lincei Mat. Appl. 23 (2012), 213 -227. DOI 10.4171/RLM/625.
30. *Algebraic and combinatorial Brill-Noether theory*. Compact moduli spaces and vector bundles, 69–85, Contemp. Math., 564, AMS, Providence, RI, 2012.

31. *Algebraic and tropical curves: comparing their moduli spaces.* In “Handbook of Moduli, Volume I.” G. Farkas, I. Morrison (Eds.), Advanced Titles in Mathematics, Volume XXIV (2012), 119–160.
32. *Riemann-Roch theory for weighted graphs and tropical curves.* With Omid Amini. *Advances in Mathematics* 240 (2013) 1-23.
33. *Gonality of algebraic curves and graphs.* In Algebraic and Complex Geometry: In honour of Klaus Hulek’s 60th Birthday. Springer Proceedings in Mathematics and Statistics 71, 77-109 2014.
34. *Rank of divisors on graphs: an algebro-geometric analysis.* In A celebration of algebraic geometry, In honour of Joe Harris Hulek’s 60th Birthday. 45-64, Clay Math. Proc., 18, Amer. Math. Soc., Providence, RI, 2013.
35. *The tropicalization of the moduli space of curves.* With Dan Abramovich and Sam Payne. *Annales Scientifiques del’ENS.* (4) 48 (2015), no. 4, 765-809.
36. *Algebraic and combinatorial rank of divisors on finite graphs.* With Yoav Len and Margarida Melo. *J. Math. Pures Appl.* (9) 104 (2015), no. 2, 227-257.
37. *Hydroxylamine-induced oxidation of ferrous carbonylated truncated hemoglobins from Mycobacterium tuberculosis and Campylobacter jejuni is limited by carbon monoxide dissociation.* With Paolo Ascenzi, Chiara Ciacci, Tecla Gasperi, Alesandra Pesce, Massimo Coletta. *Journal of Biological Inorganic Chemistry* (2017) DOI 10.1007/s00775-017-1476-x.
38. *Tropical methods in the moduli theory of algebraic curves.* Algebraic geometry: Salt Lake City 2015, 103-138, Proc. Sympos. Pure Math., 97.2, Amer. Math. Soc., Providence, RI, 2018.
39. *Compactifying moduli spaces.* *Bull. Amer. Math. Soc.* 57 (2020) 455-482, electronically published on December 17, 2018, DOI:10.1090/bull/1662.
40. *Combinatorics of compactified universal Jacobians.* With Karl Christ. *Advances in Mathematics*, Volume 346, 13 April 2019, Pages 1091-1136 DOI: 10.1016/j.aim.2019.02.019
41. *Recursive combinatorial aspects of compactified moduli spaces.* Proceedings of the International Congress of Mathematicians - Rio de Janeiro 2018. Vol. II. Invited lectures, 635-652, World Sci. Publ., Hackensack, NJ, 2018.i.
42. *Tropicalizing the moduli space of spin curves.* With Margarida Melo and Marco Pacini (2019). *Sel. Math. New Ser.* 26, 16 (2020).
<https://doi.org/10.1007/s00029-020-0539-y>

43. *Enumerative geometry of plane curves*. Notices Amer. Math. Soc. Volume 67, Number 6 (2020) 771-289. DOI: <https://doi.org/10.1090/noti2094>
44. *Uniformity of rational points: an up-date and corrections*. With Joe Harris and Barry Mazur. Tunisian J. Math. 4(1): 183-201 (2022). DOI: 10.2140/tunis.2022.4.183.
45. *Theta-characteristics on tropical curves*. With Margarida Melo e Marco Pacini. J. Pure Appl. Algebra 227 (2023), no. 5, Paper No. 107307.
46. *Hypertangency of plane curves and the algebraic exceptional set*. With Amos Turchet.. Proc. London Math. Soc. (2025): 130:e 70063.

Preprints

1. *Tropical curves of unibranch points and hypertangency*.
With Amos Turchet. Preprint (2024), Math ArXiv:2406.17392 23 pages.
2. *Exceptional loci in algebraic surfaces*. With Amos Turchet. Preprint (2026)

Other publications

1. *On a Compactification of the Universal Picard Variety over the Moduli space of Stable Curves*. Ph.D. Thesis in Mathematics (1993) Harvard University.
2. *Current developments in algebraic geometry*. Edited by Lucia Caporaso, James McKernan, Mircea Mustața and Mihnea Popa. Mathematical Sciences Research Institute Publications, 59. Cambridge University Press, Cambridge, 2012. x+426 pp. ISBN: 978-0-521-76825-2 14-06
3. *Moduli spaces in algebraic geometry*. Abstracts from the workshop held February 3-9, 2013. Organized by Dan Abramovich, Lucia Caporaso, Gavril Farkas and Stefan Kebekus. Oberwolfach Rep. 10 (2013), no. 1, 343-392.
4. *Primi passi sulle curve algebriche*. Linea Matematica N.0 - Gennaio 2022 pp.1-13.
5. *Uniform boundedness for rational points on curves*. To appear in Colloquium De Giorgi 2021 and 2022, Scuola Normale Superiore - Pisa. Preprint available at <http://www.mat.uniroma3.it/users/caporaso/ColloquimDG.pdf> (2023)