

# curriculum vitae

## Undergraduate studies:

- University of Pisa and Scuola Normale Superiore, Pisa, 1965 - 69

## Graduate studies:

- Scuola Normale Superiore, Pisa, 1969 - 70

## Present position:

- Professor Emeritus, Department of Mathematics, University of Pavia

## Past academic positions:

- Research Associate in Mathematics, Department of Mathematics, Princeton University, 1970 - 71
- Lecturer in Mathematics, Department of Mathematics, Princeton University, 1971 - 72
- Assistant Professor of Geometry, University of Pisa, 1971 - 76 (on leave 1971 - 72 and 1974 - 76)
- Assistant Professor of Mathematics, Department of Mathematics, Harvard University, 1974 - 75
- Lecturer in Mathematics, Department of Mathematics, University of California at Berkeley, 1975 - 76
- Professor of Geometry, Faculty of Sciences, University of Pavia, 1976 - 80
- Professor of Algebra, Department of Mathematics, University of Pavia, 1980 - 2017

## Visiting positions:

- Visiting Professor, Department of Mathematics, Brown University, 1984 - 85
- Visiting Professor, Department of Mathematics, University of Arizona, Tucson, April 1986
- Member, School of Mathematics, Institute for Advanced Study, Princeton, 1993 - 94
- Visiting Professor of Mathematics, Institut Henri Poincaré, Paris, March 1995
- Visiting Professor, Department of Mathematics, University of Amsterdam, March 1998
- Member, School of Mathematics, Institute for Advanced Study, Princeton, March-April 2005
- Visiting Professor, School of Mathematics, Institute for Advanced Study, Princeton, May-June 2007

## Other positions:

1988-1990 - Vice-president, Istituto Nazionale di Alta Matematica

1986-1990 - Member, Consiglio Direttivo, S.I.S.S.A.

1991-1994 - Vice-president, Italian Mathematical Union

1994-1997 - Member, Scientific Committee of the Italian Mathematical Union

1997-2000 - Vice-director, Scuola Universitaria Superiore (Istituto Universitario di Studi Superiori, Pavia)

2003-2007 - Member, Comitato Direttivo, Istituto Nazionale di Alta Matematica

2004-2007 - Director, Consorzio Interuniversitario per l'Alta Formazione in Matematica

2010-2013 - Chairman, Department of Mathematics, University of Pavia

## Some academic distinctions:

- invited plenary speaker, AMS symposium on Algebraic Geometry, Arcata 1974
- Bartolozzi prize, 1975
- invited plenary speaker, XII UMI congress, Perugia 1983
- invited 1 hour speaker, AMS symposium on Algebraic Geometry, Bowdoin 1985

- Socio corrispondente, Accademia Nazionale dei Lincei, 1990
- Socio corrispondente, Istituto Lombardo Accademia di Scienze e Lettere, 1993
- invited 45 minutes speaker, International Congress of Mathematicians, Berlin 1998
- Membro effettivo, Istituto Lombardo Accademia di Scienze e Lettere, 2000
- Medal for Mathematics, Accademia Nazionale delle Scienze, 2002
- Socio nazionale, Accademia Nazionale dei Lincei, 2005
- Socio corrispondente, Accademia delle Scienze di Torino, 2011

## - scientific publications

### Papers

M. Cornalba, B. Shiffman, [\*A counterexample to the transcendental Bezout problem\*](#), Ann. of Math. **96** (1972), 402-406.

M. Cornalba, [\*Two theorems on modifications of analytic spaces\*](#), Invent. Math. **20** (1973), 227-247.

M. Cornalba, P. Griffiths, [\*Analytic cycles and vector bundles on non-compact algebraic varieties\*](#), Invent. Math. **28** (1975), 1-106.

M. Cornalba, P. Griffiths, [\*Some transcendental aspects of algebraic geometry\*](#), in "Algebraic Geometry, Arcata 1974", Proceedings of Symposia in Pure Mathematics 29, A.M.S., Providence, Rhode Island, 1975, 3-110.

M. Cornalba, F. D'Amone, G. Gheri, F. Pegoraro, *Su di una tecnica ibrida per la risoluzione numerica del flusso di Morozov con funzioni speciali*, Consiglio Tecnico Scientifico della Difesa, C.A.M.E.N. (Centro Applicazioni Militari Energia Nucleare), internal report 1062, March 1975.

M. Cornalba, *Complex tori and Jacobians*, in "Complex Analysis and its Applications", vol. 2, I.A.E.A., Vienna, 1976, 39-100.

E. Arbarello, M. Cornalba, *Su una proprietà notevole dei morfismi di una curva a moduli generali in uno spazio proiettivo*, Rend. Sem. Mat. Univers. Politecn. Torino **38** (1980), 87-99.

E. Arbarello, M. Cornalba, *La congettura di Petri nel caso delle curve piane*, in "Geometria Algebraica y Algebra", H. Tapia-Recillas, editor, C.I.E.A. del I.P.N., México, 1980, 4-9.

E. Arbarello, M. Cornalba, [\*Su una congettura di Petri\*](#), Comment. Math. Helv. **56** (1981), 1-38.

E. Arbarello, M. Cornalba, [\*Footnotes to a paper of Beniamino Segre\*](#), Math. Ann. **256** (1981), 341-362.

M. Cornalba, [\*Una osservazione sulla topologia dei rivestimenti ciclici di varietà algebriche\*](#), Boll. UMI (5) **18-A** (1981), 323-328.

R. Catenacci, M. Cornalba, C. Reina, [\*On the energy spectrum and parameter spaces of classical  \$\mathbb{CP}^n\$  models\*](#), Comm. Math. Phys. **89** (1983), 375-386.

- E. Arbarello, M. Cornalba, [A few remarks about the variety of irreducible plane curves of given degree and genus](#), Ann. Sci. Éc. Norm. Sup. (4) **16** (1983), 467-488.
- R. Catenacci, M. Cornalba, C. Reina, [Classical solutions of  \$\mathbb{CP}^n\$  non-linear models: an algebraic-geometric description](#), Journal of Geometry and Physics **1** (1984), 53-84.
- M. Cornalba, *Il nuovo volto della teoria delle curve algebriche*, Boll. UMI (6) **3-A** (1984), 335-351.
- M. Cornalba, [Systèmes pluricanoniques sur l'espace des modules des courbes et diviseurs de courbes  \$k\$ -gonales](#) (d'après Harris et Mumford), Séminaire Bourbaki, 36e année (1983-1984), Exposé 615, Astérisque **121-122** (1985), 7-24.
- F. Brezzi, M. Cornalba, A. Di Carlo, [How to get around a simple quadratic fold](#), Numer. Math. **48** (1986), 417-427.
- R. Catenacci, M. Cornalba, M. Martellini, C. Reina, [Algebraic Geometry and Path Integrals for Closed Strings](#), Physics Letters B **172** (1986), 328-332.
- E. Arbarello, M. Cornalba, [The Picard groups of the moduli spaces of curves](#), Topology **26** (1987), 153-171.
- M. Cornalba, *The bosonic string from an algebro-geometric standpoint*, in "Superstrings, Unified Theories, and Cosmology", G. Furlan, R. Jengo, J.C. Pati et al., editors, World Scientific, Singapore, 1987, 38-52.
- M. Cornalba, [On the locus of curves with automorphisms](#), Annali di Matematica pura ed applicata (4) **149** (1987), 135-151. [Erratum](#), Annali di Matematica pura ed applicata (4) **187** (2008), 185-186. [Revised version](#) incorporating the changes described in the Erratum.
- M. Cornalba, *Il luogo singolare dello spazio dei moduli delle curve*, Rend. Sem. Mat. Fis. Milano **57** (1987), 149-159.
- M. Cornalba, J. Harris, [Divisor classes associated to families of stable varieties, with applications to the moduli space of curves](#), Ann. Sci. Éc. Norm. Sup. (4) **21** (1988), 455-475.
- M. Cornalba, [The theorems of Riemann-Roch and Abel](#), in "Lectures on Riemann Surfaces", M. Cornalba, X. Gomez-Mont, A. Verjovsky, editors, World Scientific, Singapore, 1989, 302-349.
- M. Cornalba, [Moduli of curves and theta-characteristics](#), in "Lectures on Riemann Surfaces", M. Cornalba, X. Gomez-Mont, A. Verjovsky, editors, World Scientific, Singapore, 1989, 560-589.
- M. Cornalba, [A remark on the Picard group of spin moduli space](#), Rend. Mat. Acc. Lincei (9) **2** (1991), 211-217.
- M. Cornalba, [On the projectivity of the moduli spaces of curves](#), J. reine angew. Math. **443** (1993), 11-20.
- M. Cornalba, [A simple proof of the projectivity of Kontsevich's space of maps](#), Istit. Lombardo Accad. Sci. Lett. Rend. A **129** (1995), 97-105.

- E. Arbarello, M. Cornalba, [\*Combinatorial and algebro-geometric cohomology classes on the moduli spaces of curves\*](#), J. Alg. Geom. **5** (1996), 705-749, [arXiv:alg-geom/9406008](#).
- M. Cornalba, [\*Cohomology of moduli spaces of stable curves\*](#), Proceedings of the International Congress of Mathematicians (Berlin, 1998), Doc. Math., Extra volume ICM 1998, II (1998), 249 - 257. ([slides](#) of ICM98 talk)
- E. Arbarello, M. Cornalba, [\*Calculating cohomology groups of moduli spaces of curves via algebraic geometry\*](#), Inst. Hautes Études Sci. Publ. Math. **88** (1998), 97-127, [arXiv:math/9803001](#).
- M. Cornalba, [\*Coomologia in grado basso degli spazi di moduli delle curve\*](#), in "F. Brioschi (1824-1897). Convegno di studi matematici", Istituto Lombardo, Milano, 1999, 303-312.
- M. Cornalba, [\*Compattificazioni di spazi di moduli di radici di fibrati in rette\*](#), in "L. Cremona (1830-1903). Convegno di studi matematici", Istituto Lombardo, Milano, 2005, 119-131.
- M. Cornalba, [\*The Picard group of the moduli stack of stable hyperelliptic curves\*](#), Rend. Lincei Mat. Appl. (9) **18** (2007), 109-115, [arXiv:math/0605531](#).
- L. Caporaso, C. Casagrande, M. Cornalba, [\*Moduli of roots of line bundles on curves\*](#), Trans. Amer. Math. Soc. **359** (2007), 3733-3768, [arXiv:math/0404078](#).
- M. Cornalba, L. Stoppino, [\*A sharp bound for the slope of double cover fibrations\*](#), Michigan Math. J. **56** (2008), 551-561, [arXiv:math/0510144](#).
- E. Arbarello, M. Cornalba, [\*Teichmüller space via Kuranishi families\*](#), Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) **8** (2009), 89-116, [arXiv:math/0702437](#).
- E. Arbarello, M. Cornalba, [\*Jenkins-Strebel differentials\*](#), Rend. Lincei Mat. Appl. (9) **21** (2010), 115-157.
- E. Arbarello, M. Cornalba, [\*Divisors in the moduli spaces of curves\*](#), in "[Geometry of Riemann surfaces and their moduli spaces](#)" (Lizhen Ji, Scott Wolpert, Shing-Tung Yau, editors), Surveys in Differential Geometry 14, International Press, Somerville, MA, 2010, pp. 1-22. [arXiv:0810.5373](#).
- M. Cornalba, [\*L'eredità scientifica di Guido Castelnuovo a 150 anni dalla nascita\*](#), Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur. **149** (2015), 45-55.

## Books

- E. Arbarello, M. Cornalba, P. Griffiths, J. Harris, *Special divisors on algebraic curves*, Informal lecture notes distributed in conjunction with the principal lectures at the Regional Algebraic Geometry Conference, Athens, Georgia, May 7-May 12, 1979. Reprinted in "Phillip A. Griffiths, *Selected Works of Phillip A. Griffiths with Commentary*, volume II, American Mathematical Society, Providence, RI, 2003, pp. 649-778".
- E. Arbarello, M. Cornalba, P. Griffiths, J. Harris, [\*Geometry of Algebraic Curves, vol. I\*](#). Grundlehren der mathematischen Wissenschaften 267. Springer-Verlag, New York, 1985.

E. Arbarello, M. Cornalba, P. Griffiths, [\*Geometry of Algebraic Curves, vol. II\*](#), with a contribution by J. Harris. Grundlehren der mathematischen Wissenschaften 268. Springer-Verlag, Heidelberg, 2011.

## Books edited

*Lectures on Riemann Surfaces* (M. Cornalba, X. Gomez-Mont, A. Verjovsky, editors), World Scientific, Singapore, 1989.

*Problems in the theory of surfaces and their classification* (F. Catanese, C. Ciliberto, M. Cornalba, editors), Symposia Mathematica 32, Academic Press, London, 1991.

Guido Castelnuovo, *Opere Matematiche. Memorie e Note* (E. Arbarello, U. Bottazzini, M. Cornalba, P. Gario, E. Vesentini, editors), vol. 1: 1885-1893, Accademia Nazionale dei Lincei, Roma, 2002; vol. 2: 1894-1906, Accademia Nazionale dei Lincei, Roma, 2003; vol. 3: 1907-1930, Accademia Nazionale dei Lincei, Roma, 2004; vol. 4: 1931-1952; *Appendice*, Accademia Nazionale dei Lincei, Roma, 2007.

Phillip A. Griffiths, *Selected Works of Phillip A. Griffiths with Commentary* (Enrico Arbarello, Robert L. Bryant, C. Herbert Clemens, Maurizio Cornalba, Mark L. Green, Joe Harris, David R. Morrison, and Wilfried Schmid, editors), 4 volumes, American Mathematical Society, Providence, RI, 2003.