

# PUBLICATIONS

Marco Abate

## 1. Research papers

- [1.1] *Automorphism groups of the classical domains, I.* Rend. Acc. Naz. Lincei **79** (1985), 25–30.
- [1.2] *Automorphism groups of the classical domains, II.* Rend. Acc. Naz. Lincei **79** (1985), 127–131.
- [1.3] *Boundary behavior of invariant distances and complex geodesics.* Rend. Acc. Naz. Lincei **80** (1986), 100–106.
- [1.4] *Orbit structure of the non-compact hermitian symmetric spaces.* Rend. Circ. Mat. Palermo **36** (1987), 241–280.
- [1.5] *Annular bundles.* Pac. J. Math. **134** (1988), 1–26.
- [1.6] *Horospheres and iterates of holomorphic maps.* Math. Z. **198** (1988), 225–238.
- [1.7] *Converging semigroups of holomorphic maps.* Rend. Acc. Naz. Lincei **82** (1988), 223–227.
- [1.8] *Common fixed points of commuting holomorphic maps.* Math. Ann. **283** (1989), 645–655.
- [1.9] *The Lindelöf principle and the angular derivative in strongly convex domains.* J. Anal. Math. **154** (1990), 189–228.
- [1.10] With J.-P. Vigué: *Common fixed points in hyperbolic Riemann surfaces and convex domains.* Proc. Am. Math. Soc. **112** (1991), 503–512.
- [1.11] *Iteration theory, compactly divergent sequences and commuting holomorphic maps.* Ann. Scuola Norm. Sup. Pisa **18** (1991), 167–191.
- [1.12] *The infinitesimal generator of semigroups of holomorphic maps.* Ann. Mat. Pura Appl. **161** (1992), 167–180.
- [1.13] With G. Patrizio: *Uniqueness of complex geodesics and characterization of circular domains.* Man. Math. **74** (1992), 277–297.
- [1.14] With L. Geatti: *Cohomogeneity 2 hyperbolic acyclic Stein manifolds.* Int. J. Math. **3** (1992), 591–608.
- [1.15] With P. Heinzner: *Holomorphic actions on contractible domains without fixed points.* Math. Z. **211** (1992), 547–555.
- [1.16] *A characterization of hyperbolic manifolds.* Proc. Am. Math. Soc. **117** (1993), 789–793.
- [1.17] *Iteration of holomorphic families.* Rend. Ist. Mat. Trieste **26** (1994), 141–150.
- [1.18] With G. Patrizio: *Holomorphic curvature of Finsler metrics and complex geodesics.* J. Geom. Anal. **6** (1996), 341–364.
- [1.19] *A characterization of the Chern and the Bernwald connections.* Houston J. Math. **22** (1996), 701–717.
- [1.20] With G. Patrizio: *Kähler Finsler metrics with constant holomorphic curvature.* Int. J. Math. **8** (1997), 169–186.
- [1.21] *When is a linear operator diagonalizable?.* Amer. Math. Monthly **104** (1997), 824–830.
- [1.22] With G. Patrizio: *Isometries of the Teichmüller metric.* Ann. Sc. Norm. Sup. Pisa **26** (1998), 437–452.
- [1.23] *The Julia-Wolff-Carathéodory theorem in polydisks.* J. Analyse Math. **74** (1998), 275–306.
- [1.24] *Diagonalization of non-diagonalizable discrete holomorphic dynamical systems.* Amer. J. Math. **122** (2000), 757–781.
- [1.25] *The residual index and the dynamics of holomorphic maps tangent to the identity.* Duke Math. J. **107** (2001), 173–207.
- [1.26] *Basins of attraction in quadratic dynamical systems with a Jordan fixed point.* Nonlinear Anal. **51** (2002), 271–282.

- [1.27] With R. Tauraso: *The Lindelöf principle and angular derivatives in convex domains of finite type*. J. Austr. Math. Soc. **73** (2002), 221–250.
- [1.28] With F. Tovena: *Parabolic curves in  $\mathbf{C}^3$* . Abstr. Appl. Anal. **2003** (2003), 275–294.
- [1.29] With F. Bracci and F. Tovena: *Index theorems for holomorphic self-maps*. Ann. of Math. **159** (2004), 819–864.
- [1.30] With F. Bracci: *Ritt’s theorem and the Heins map in hyperbolic complex manifolds*. Science in China, Ser. A **48 Suppl.** (2005), 238–243.
- [1.31] With F. Bracci and F. Tovena: *Index theorems for holomorphic maps and foliations*. Indiana Univ. Math. J. **57** (2008), 2999–3048.
- [1.32] With J.-P. Vigué: *Isometries for the Carathéodory metric*. Proc. Amer. Math. Soc. **136** (2008), 3905–3909.
- [1.33] With F. Bracci and F. Tovena: *Embeddings of submanifolds and normal bundles*. Adv. Math. **220** (2009), 620–656.
- [1.34] With F. Bracci, Manuel D. Contreras, S. Díaz-Madrigal: *The evolution of Loewner’s differential equations*. Newsletter Eur. Math. Soc. 78 (2010), 31–38.
- [1.35] With F. Tovena: *Poincaré-Bendixson theorems for meromorphic connections and holomorphic homogeneous vector fields*. J. Diff. Eq. **251** (2011), 2612–2684.
- [1.36] With A. Saracco: *Carleson measures and uniformly discrete sequences in strongly pseudoconvex domains*. J. London Math. Soc. **83** (2011), 587–605.
- [1.37] With J. Raissy: *Backward iteration in strongly convex domains*. Adv. Math. **228** (2011), 2837–2854.
- [1.38] *Open problems in local discrete holomorphic dynamics*. Anal. Math. Phys. **1** (2011), 261–287.
- [1.39] With J. Raissy and A. Saracco: *Toeplitz operators and Carleson measures in strongly pseudoconvex domains*. J. Funct. Anal. **263** (2012), 3449–3491.
- [1.40] With F. Bracci, T. Suwa and F. Tovena: *Localization of Atiyah classes*. Rev. Mat. Iberoam. **29** (2013), 547–578.
- [1.41] With J. Raissy: *Formal Poincaré-Dulac renormalization for holomorphic germs*. Disc. Cont. Dyn. Syst. **33** (2013), 1773–1807.
- [1.42] With A. Abbondandolo and P. Majer: *Stable manifolds for holomorphic automorphisms*. J. Reine Ang. Math. **690** (2014), 217–247.
- [1.43] With J. Raissy: *Wolff-Denjoy theorems in non-smooth convex domains*. Ann. Mat. Pura Appl. **193** (2014), 1503–1518.
- [1.44] With J. Raissy: *A Julia-Wolff-Carathéodory theorem for infinitesimal generators in the unit ball*. Trans. Amer. Math. Soc. **368** (2016), 5415–5431.
- [1.45] With F. Bianchi: *A Poincaré-Bendixson theorem for meromorphic connections on compact Riemann surfaces*. Math. Z. **282** (2016), 247–272.
- [1.46] With F. Balestri, M. Cappiello, A. Del Corso, R. Moschini, U. Mura, R. Rotondo: *Modulation of aldose reductase activity by aldose hemiacetals*. Biochim. Biophys. Acta **1850** (2015), 2329–2339.
- [1.47] *Kobayashi distance in holomorphic dynamics and operator theory*. Preprint, arXiv: 1509.01363, 2015.

## 2. Proceedings

- [2.1] *Iterates and semigroups on taut manifolds*. In **Atti delle Giornate di Geometria Analitica e Analisi Complessa, Rocca di Papa, 1988**, Editel, Cosenza, 1990, pp. 3–13.
- [2.2] *Iteration theory on weakly convex domains*. In **Seminar in complex analysis and geometry 1988**, Editel, Cosenza, 1990, pp. 3–16.
- [2.3] *Angular derivatives in strongly pseudoconvex domains*. Proc. Symp. Pure Math. **52**, Part 2 (1991), 23–40.
- [2.4] *The complex geodesics of non-compact hermitian symmetric spaces*. In **Seminari di Geometria 1991–1993**, Università di Bologna, 1994, pp. 1–18.
- [2.5] With G. Patrizio: *A characterization of convex circular domains*. In **Proceedings of Complex Analysis and Applications, 1991**, Bulgarian Academy of Sciences, Sofia, 1994, pp. 1–7.
- [2.6] With G. Patrizio: *Complex geodesics and Finsler metrics*. In **Topics in Complex Analysis**, Banach Center Publications, Warszawa, 1995, pp. 11–25.
- [2.7] With G. Patrizio: *Finsler metrics of constant curvature and the characterization of tube domains*. In **Finsler Geometry**, Contemp. Math. 196, American Mathematical Society, Providence, 1996, pp. 101–107.
- [2.8] With G. Patrizio: *Complex Finsler metrics*. In **Geometry and analysis on complex manifolds**, Eds. T. Mabuchi, J. Noguchi and T. Ochiai, World Scientific Publications, Singapore, 1994, pp. 1–38.
- [2.9] With G. Patrizio: *Equazione di Monge-Ampère omogenea complessa e metriche di Finsler*. In **Seminari di Geometria 1994–1995**, Università di Bologna, 1996, pp. 1–25.
- [2.10] With T. Aikou and G. Patrizio: *Preface for Complex Finsler Geometry*. In **Finsler Geometry**, Contemp. Math. 196, American Mathematical Society, Providence, 1996, pp. 97–100.
- [2.11] With R. Tauraso: *The Julia-Wolff-Carathéodory theorem(s)*. Contemp. Math. **222** (1999), 161–172.
- [2.12] With G. Patrizio: *Convex-like properties of the Teichmüller metric*. Contemp. Math. **222** (1999), 149–159.
- [2.13] *Angular derivatives in several complex variables*. In **Real methods in complex and CR geometry**, Eds. D. Zaitsev, G. Zampieri, Lect. Notes in Math. 1848, Springer, Berlin, 2004, pp. 1–47.
- [2.14] *Discrete local holomorphic dynamics*. In **Proceedings of 13th Seminar on Analysis and Its Applications, Isfahan 2003**, Eds. S. Azam et al., University of Isfahan, Iran, 2005, pp. 1–32.
- [2.15] *Holomorphic classification of 2-dimensional quadratic maps tangent to the identity*. Sūrikaiseikikenkyūsho Kōkyūroku **1447** (2005), 1–14.
- [2.16] With F. Tovena: *Formal classification of holomorphic maps tangent to the identity*. Disc. Cont. Dyn. Sys., Suppl. 2005 1–10.
- [2.17] *A general approach to Camacho-Sad-like index theorems*. In **Proceedings of the 6th Congress of Romanian Mathematicians**, Publishing House of the Romanian Academy, Bucarest, 2007, pp. 83–92.
- [2.18] *An introduction to local discrete holomorphic dynamics*. In **Advanced courses of mathematical analysis III**, Eds. J.M. Delgado Sánchez and T.D. Benavides, World Scientific, Honk Kong, 2008, pp. 1–27.
- [2.19] *Discrete holomorphic local dynamical systems*. In **Holomorphic dynamical systems**, Eds. G. Gentili, J. Guénot, G. Patrizio, Lect. Notes in Math. 1998, Springer, Berlin 2010, pp. 1–55.
- [2.20] *Homogeneous vector fields and meromorphic connections*. In **Progress in analysis and its applications**, Eds. M. Ruzhansky and J. Wirth, World Scientific, Hong Kong, 2010, pp. 523–529.
- [2.21] *Index theorems for meromorphic self-maps of the projective space*. In **Frontiers in complex dynamics**, Eds. A. Bonifant, M. Lyubich, S. Sutherland, Princeton University Press, Princeton, 2014, pp. 451–460.

- [2.22] With F. Bracci: *Common boundary regular fixed points for holomorphic semigroups in strongly convex domains*. To appear in **Proceedings of the International Conference Complex Analysis and Dynamical Systems VI**. Preprint, arXiv: 1402.3675, 2014.
- [2.23] *Fatou flowers and parabolic curves*. In **Complex Analysis and Geometry**, Eds. F. Bracci, J. Byun, H. Gaussier, K. Hirachi, K.-T. Kim, N. Shcherbina. Springer, Berlin, 2015, pp. 1–39.

### 3. Research books

- [3.1] **Iteration theory of holomorphic maps on taut manifolds**. Mediterranean Press, Cosenza, 1989.
- [3.2] With G. Patrizio: **Finsler metrics — A global approach**. Lecture Notes in Mathematics 1591, Springer, Berlin, 1994.
- [3.3] **An introduction to hyperbolic dynamical systems**. I.E.P.I. Pisa, 2001.

### 4. Textbooks

- [4.1] **Geometria**. McGraw-Hill Libri Italia, Milano, 1996.
- [4.2] With C. de Fabritiis: **Esercizi di Geometria**. McGraw-Hill Libri Italia, Milano, 1999.
- [4.3] **Algebra lineare**. McGraw-Hill Libri Italia, Milano, 2000.
- [4.4] With G.F. Simmons: **Calcolo differenziale e integrale, con elementi di algebra lineare**. McGraw-Hill Libri Italia, Milano, 2000.
- [4.5] With C. de Fabritiis: **Geometria analitica con elementi di algebra lineare**. McGraw-Hill Libri Italia, Milano, 2006, Second edition 2010. Third edition, 2014.
- [4.6] With F. Tovena: **Curve e superfici**. Springer Italia, Milano, 2006.
- [4.7] **Matematica e statistica**. McGraw-Hill Libri Italia, Milano, 2009. Second edition, 2013.
- [4.8] With F. Tovena: **Geometria differenziale**. Springer Italia, Milano, 2011.
- [4.9] With F. Tovena: **Curves and surfaces**. Springer, Berlin, 2011.

## 5. Popularizing papers

- [5.1] *Narrare matematica nel fumetto*. Int. J. Sci. Comm. **7** (2003), 1–10.
- [5.2] *Scrivere Matematica nel fumetto*. In **Matematica e cultura 2004**, Ed. M. Emmer, Springer Italia, Milano, 2004, pp. 19–29.
- [5.3] *Dinamicamente parlando*. Sapere **70** (2004), 18–27.
- [5.4] *Come salvare vite e comprarsi le Seychelles usando la teoria della misura*. In **Lezioni sotto la torre**, Ed. M. Stampacchia et al., ETS, Pisa, 2006, pp. 145–151.
- [5.5] *Évariste et Héloïse*. In **Matematica e cultura 2006**, Ed. M. Emmer, Springer Italia, Milano, 2006, pp. 145–156.
- [5.6] *Nostra (poco affidabile) comunicazione scientifica*. Doc Toscana **19** (2006), 21–22.
- [5.7] *La divulgazione scientifica: scenari e prospettive*. In *Speciale Pisa Book Festival*, Edizioni Plus, Pisa, 2006, p. 4.
- [5.8] *Il girasole di Fibonacci*. In **Matematica e cultura 2007**, Ed. M. Emmer, Springer Italia, Milano, 2007, pp. 227–240.
- [5.9] *L'autobiografia riluttante di G.H. Hardy*. In **Matematica e cultura 2008**, Ed. M. Emmer, Springer Italia, Milano, 2008, pp. 37–48.
- [5.10] *Sistemi dinamici olomorfi discreti locali*. Matem. Soc. Cult. **1** (2008), 409–441.
- [5.11] *Book review of “Mathematics and culture in Europe”*. Math. Intelligencer **31** (2009), 56–57.
- [5.12] *Sistemi dinamici e sistemi caotici*. In **XXI Secolo: L’universo fisico**, Istituto dell’Enciclopedia Treccani, Roma, 2010, pp. 133–142.
- [5.13] *Prezzi nel caos*. In **Matematica e cultura 2010**, Ed. M. Emmer, Springer Italia, Milano, 2010, pp. 197–207.
- [5.14] *Quando il cielo ci cade sulla testa*. In **Matematica e cultura 2011**, Ed. M. Emmer, Springer Italia, Milano, 2011, pp. 97–109.
- [5.15] *The many faces of Lorenz knots*. In **Imagine Math**, Ed. M. Emmer, Springer, Berlin, 2012, pp. 169–174.
- [5.16] *Exotic spheres and John Milnor*. In **Imagine Math 2**, Ed. M. Emmer, Springer, Berlin, 2013, pp. 221–229.
- [5.17] *Book review of “L’Agrapheur: intrigues policières à saveur mathématique”*. Math. Intelligencer **35** (2013), 87–88.
- [5.18] *A la recherche des racines perdues (In search of lost roots)*. In **Imagine Math 3**, Ed. M. Emmer, Springer, Berlin, 2015, pp. 253–261.
- [5.19] *Mathematical memories*. To appear in **I, mathematician**, Ed. S.G. Krantz, MAA, Providence, 2015.
- [5.20] With B. Possidente: *Fractal art(ists)*. In **Imagine Maths 4**, Eds. M. Abate, M. Emmer, M. Villareal, Unione Matematica Italiana, Bologna, 2015, pp. 67–83.

## 6. Editing of books

- [6.1] **Perché Nobel?**. Ed. M. Abate, Springer Italia, Milano, 2008.
- [6.2] **Local dynamics of singular holomorphic foliations**. Ed. M. Abate, ETS, Pisa, 2010.
- [6.3] **Imagine Maths 4**. Ed. M. Abate, M. Emmer, M. Villareal, Unione Matematica Italiana, Bologna, 2015.