

# Elenco delle pubblicazioni

di Andrea Bonfiglioli

## Pubblcazioni Scientifiche:

1. *Liouville-type theorems for real sub-Laplacians* (con E. Lanconelli) *Manuscripta Math.* **105**, 111–124 (2001).
2. *Expansion of the Heisenberg integral mean via iterated Kohn Laplacians: a Pizzetti-type formula*, *Pot. Analysis* **17**, 165–180 (2002).
3. *Maximum Principle on unbounded domains for sub-Laplacians: a Potential Theory approach* (con E. Lanconelli), *Proc. Amer. Math. Soc.* **130**, 2295–2304 (2002).
4. *Uniform Gaussian estimates of the fundamental solutions for heat operators on Carnot groups* (con E. Lanconelli, F. Uguzzoni), *Adv. Differential Equations* **7**, 1153–1192 (2002).
5. *Subharmonic functions on Carnot groups* (con E. Lanconelli), *Math. Ann.* **325**, 97–122 (2003).
6. *Levi's parametrix for some sub-elliptic non-divergence form operators* (con E. Lanconelli, F. Uguzzoni), *Electron. Res. Announc. Math. Sci.* **9**, 10–18 (2003).
7. *Some non-existence results for critical equations on step-two stratified groups* (con F. Uguzzoni), *C. R. Acad. Sci. Paris Sér. I Math.* **336**, 817–822 (2003).
8. *Nonlinear Liouville theorems for some critical problems on H-type groups* (con F. Uguzzoni), *J. Funct. Anal.* **207**, 161–215 (2004).
9. *Homogeneous Carnot groups related to sets of vector fields*, *Bollettino U.M.I.* (8) **7-B**, 79–107 (2004).
10. *Families of diffeomorphic sub-Laplacians and free Carnot groups* (con F. Uguzzoni), *Forum Math.* **16**, 403–415 (2004).
11. *A note on lifting of Carnot groups* (con F. Uguzzoni), *Rev. Mat. Iberoamericana* **21**, 1013–1035 (2005).

12. *Fundamental solutions for non-divergence form operators on stratified groups* (con E. Lanconelli, F. Uguzzoni), Trans. Amer. Math. Soc., **356**, 2709–2737 (2004).
13. *A Poisson-Jensen type representation formula for subharmonic functions on stratified Lie groups* (con C. Cinti), Pot. Analysis **22**, 151–169 (2005).
14. *Representation formulas and Fatou-Kato theorems for heat operators on stratified groups* (con F. Uguzzoni) Rendiconti di Matematica, Serie VII, **25**, 53–67 (2005).
15. *The theory of energy for sub-Laplacians with an application to quasi-continuity* (con C. Cinti) Manuscripta Math. **118**, 283–309 (2005).
16. *Maximum principle and propagation for intrinsically regular solutions of differential inequalities structured on vector fields* (con F. Uguzzoni) J. Math. Anal. Appl. **322**, 886–900 (2006).
17. *Dirichlet problem with  $L^p$ -boundary data in contractible domains of Carnot groups* (con E. Lanconelli), Ann. Sc. Norm. Super. Pisa, Cl. Sci. **5**, 579–610 (2006).
18. *Harnack inequality for non-divergence form operators on stratified groups* (con F. Uguzzoni) Trans. Amer. Math. Soc. **359**, 2463–2481 (2007).
19. *Gauge functions, Eikonal equations and Bôcher's theorem on stratified Lie groups* (con E. Lanconelli) Calc. Var. Partial Diff. Equations **30**, 277–291 (2007).
20. *Stratified Lie Groups and Potential Theory for their sub-Laplacians*, Monografia (ca. 800 pagine) (con E. Lanconelli, F. Uguzzoni), Springer Monographs in Mathematics, **26**, New York, NY: Springer-Verlag, 2007.
21. *Taylor formula for homogeneous groups and applications*, Math. Z. **262**, 255–279 (2009).
22. *Pizzetti's formula for H-type groups*, Potential Analysis **31**, 311–333 (2009).
23. *Lifting of convex functions on Carnot groups and lack of convexity for a gauge function*, Archiv der Math. **93**, 277–286 (2009).
24. *On left invariant Hörmander operators in  $\mathbb{R}^N$ . Applications to Kolmogorov-Fokker-Planck equations* (con E. Lanconelli), Journal of Mathematical Sciences, **171**, n.1, 22–33 (2010).

25. *On left-invariant Hörmander operators in  $\mathbb{R}^N$ : applications to the Kolmogorov-Fokker-Planck equations*, (con E.Lanconelli) *Sovrem. Mat. Fundam. Napravl.*, **36**, 24–35 (2010).
26. *An ODE's version of the formula of Baker, Campbell, Dynkin and Hausdorff and the construction of Lie groups with prescribed Lie algebra*, *Mediterr. J. Math.* **7**, 387–414 (2010).
27. *Lie groups related to Hörmander operators and Kolmogorov-Fokker-Planck equations* (con E. Lanconelli), **Commun. Pure Appl. Anal.** **11**, 1587–1614 (2012).
28. *Topics in Noncommutative Algebra. The Theorem of Campbell, Baker, Hausdorff and Dynkin.* (con R. Fulci), **Lecture Notes in Mathematics**, vol. 2034, Springer-Verlag, 2012 (XXII p.+ 498 p.).
29. *Subharmonic functions in sub-Riemannian settings* (con E. Lanconelli), *J. Eur. Math. Soc.*, **15**, 387–441 (2013). Doi:10.4171/JEMS/364
30. *A new characterization of convexity in free Carnot groups* (con E. Lanconelli), *Proc. Amer. Math. Soc.*, **140**, 3263–3273 (2012).
31. *A new proof of the existence of free Lie algebras and an application* (con R. Fulci), *ISRN Algebra*, Volume **2011** (2011), Article ID 247403, 11 pages.  
doi:10.5402/2011/247403
32. *Matrix exponential groups and Kolmogorov-Fokker-Planck equations* (con E. Lanconelli), *J. Evol. Equ.* **12**, 59–82 (2012)
33. *The early proofs of the Theorem of Campbell, Baker, Hausdorff and Dynkin* (con R. Achilles), *Arch. Hist. Exact Sci.*, **66**, 295–358 (2012).
34. *H-convex distributions in stratified groups* (con E. Lanconelli, V. Magnani, M. Scienza), to appear in *Proc. Amer. Math. Soc.* (2012). Il titolo è visibile nella sezione Articles in Press all'url seguente:  
  
([http://www.ams.org/cgi-bin/mstrack/accepted\\_papers?jrnl=proc](http://www.ams.org/cgi-bin/mstrack/accepted_papers?jrnl=proc)).
35. *On the Dirichlet problem and the inverse mean value theorem for a class of divergence form operators* (con B. Abbondanza), *J. London Math. Soc.*, **87**, 321–346 (2013).  
Doi: 10.1112/jlms/jds050.

36. *Convexity of average operators for subsolutions to subelliptic equations* (con E. Lanconelli, A. Tommasoli), to appear in *Analysis and PDEs*, 2013.
37. *Normal families of functions for subelliptic operators and the theorems of Montel and Koebe* (con E. Battaglia), *J. Math. Anal. Appl.*, **409**, 1–12 (2014).  
ISSN: 0022-247X, <http://dx.doi.org/10.1016/j.jmaa.2013.06.062>  
(<http://www.sciencedirect.com/science/article/pii/S0022247X13006203>)
38. *On the convergence of the Campbell-Baker-Hausdorff-Dynkin series in infinite-dimensional Banach-Lie algebras* (con S. Biagi), to appear in *Linear and Multilinear Algebra* (2013),  
doi: 10.1080/03081087.2013.839674

### **Lavori sottoposti per la pubblicazione:**

39. *Finite-dimensional Lie algebras of complete Hörmander vector fields and applications* (con S. Biagi), submitted (2013).

### **Articoli in preparazione:**

40. *The contribution of Ernesto Pascal to the so-called Campbell-Hausdorff formula*, in preparazione (2012).
41. *Notions of Curvature: From the Riemannian to the sub-Riemannian case* (con E. Lanconelli, V. Martino, A. Montanari), Monografia in preparazione (2012).
42. *An Introduction to Subelliptic Laplacians*, Monografia, in preparazione (2013).

### **Pubblicazioni scientifiche a carattere divulgativo:**

43. Bonfiglioli, A., Valentini, C. (editori): *Matematica Arte e Tecnologia: da Escher alla Computer Graphics*, Edizioni Aspasia, Bologna (2000).
44. “*Matematica Arte e Tecnologia: da Escher alla Computer Graphics*” Bologna, 12 ottobre - 3 dicembre 2000 (con C. Valentini), in “*Matematica, Arte, Tecnologia, Cinema*” Atti della Mostra e del Convegno, Bologna 2000, Springer Italia (2001).
45. *Mathematics meets Art: Escher, Reutersvärd and Saffaro at Bologna 2000* (con C. Valentini), in “*Mathematics, Art, Technology, and Cinema*” a cura di M. Emmer, Springer Verlag, November 2003, pp. 33–38.

### **Pubblicazioni didattiche in preparazione:**

46. *Istituzioni di Matematica 2, Teoria ed Esercizi*, Monografia, in preparazione, Bologna (2008), 500 pagine circa.
47. *Manuale di L<sup>A</sup>T<sub>E</sub>X* (a cura di A. Bonfiglioli e C. Cinti) Monografia, in preparazione, Bologna (2009).

### **Seminari interni a stampa:**

- (i) *Gruppi di Carnot associati a campi vettoriali*, in: Seminario di Analisi Matematica, Dipartimento di Matematica dell'Università di Bologna; Anno Accademico 2001/2002, 27–46, Tecnoprint: Bologna (2002).

- (ii) *Un teorema di Liouville non lineare sui semispazi dei gruppi di passo due*, in: Seminario di Analisi Matematica, Dipartimento di Matematica dell'Università di Bologna; Anno Accademico 2002/2003, 25–33, Tecnoprint: Bologna (2003).
- (iii) *Gauge functions, eikonal equation and Bôcher theorem on stratified Lie groups* (con E. Lanconelli), in: Mathematical Analysis Seminar, University of Bologna Department of Mathematics: Academic Year 2005/2006 (Italian), 55–63, Tecnoprint: Bologna (2007).
- (iv) *Taylor formula for homogeneous groups and applications*, in: “Bruno Pini” Mathematical Analysis Seminar: University of Bologna Department of Mathematics: Academic Year 2007/2008 (Italian), 43–69, Tecnoprint: Bologna (2008).
- (v) *I Teoremi di Campbell, Baker, Hausdorff e Dynkin. Storia, prove, problemi aperti* in: “Bruno Pini” Mathematical Analysis Seminar (electronic, ISSN 2240-2829), University of Bologna Department of Mathematics: Academic Year 2009/2010 (Italian), 1–47 (2008).

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Bologna, 30/08/2013.

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