

PUBLICATIONS

ARTICLES ON JOURNALS

1) D. Giachetti, E. Mascolo

“Quasi-elliptic problems in Sobolev weighted spaces”, *Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* (8) 63 (1977), n. 5, 360-367.

2) D. Giachetti, E. Mascolo

“Quasielliptic problems in Sobolev spaces with a weight”, *Ricerche Mat.* 28 (1979), n.1, 3-37.

3) D. Giachetti, E. Mascolo, R. Schianchi

“Higher order nonlinear partial differential equations in unbounded domains of \mathbb{R}^n ”. *Comment. Math. Univ. Carolin.* 20 (1979), n. 3, 583-595.

4) D. Giachetti, E. Mascolo

“Spectral properties of a class of quasi-elliptic operators”, *Ann. Univ. Ferrara Sez. VII (N.S.)* 25 (1979), 27-46.

5) D. Giachetti, P. Donato

“Spectrum property of a class of elliptic linear operators in unbounded domains and applications to semilinear problems”, *Ann. Univ. Ferrara Sez. VII (N.S.)* 27 (1981), 43--69 (1982).

6) D. Giachetti

“Some unilateral problems of implicit type in unbounded domains”. *Rend. Mat.* (7) 1 (1981), n. 4, 541-558.

7) D. Giachetti, L. Boccardo

“Strongly nonlinear unilateral problems”, *Appl. Math. Optim.* 9 (1982/83), n. 3, 291-301.

8) D. Giachetti

“Optimal control in constrained problems”, *Boll. Un. Mat. Ital. B* (6) 2 (1983), n. 2, 445-468.

9) D. Giachetti, M. Ramaswamy

“Existence and homogenization for semilinear elliptic equations with noncompact nonlinearity”, *Nonlinear Anal.* 8 (1984), n. 1, 5-15.

10) D. Giachetti

“Some homogenization results for strongly nonlinear equations”, *Nonlinear Anal.* 8 (1984), n. 10, 1201-1214.

- 11) D. Giachetti, L. Boccardo
“Some remarks on the regularity of solutions of strongly nonlinear problems, and applications”, *Ricerche Mat.* 34 (1985), n. 2, 309-323.
- 12) D. Giachetti, P. Donato
“Quasilinear elliptic equations with quadratic growth in unbounded domains”, *Nonlinear Anal.* 10 (1986), no. 8, 791-804.
- 13) D. Giachetti, L. Boccardo, P. Drábek, M. Kučera
“Generalization of Fredholm alternative for nonlinear differential operators”, *Nonlinear Anal.* 10 (1986), n. 10, 1083--1103.
- 14) D. Giachetti, P. Donato
“Unilateral problems with quadratic growth in unbounded domains”, *Boll. Un. Mat. Ital. A* (6) 5 (1986), n. 3, 361-369.
- 15) D. Giachetti, L. Boccardo
“Stability results for two classes of nonlinear unilateral problems”, *Numer. Funct. Anal. Optim.* 9 (1987), n. 3-4, 447-469.
- 16) D. Giachetti, L. Boccardo
“Existence results via regularity for some nonlinear elliptic problems”, *Comm. Partial Differential Equations* 14 (1989), no. 5, 663-680.
- 17) D. Giachetti, L. Boccardo, J. I. Diaz, F. Murat
“Existence of a solution for a weaker form of a nonlinear elliptic equation”, *Recent advances in nonlinear elliptic and parabolic problems (Nancy, 1988)*, 229--246, *Pitman Res. Notes Math. Ser.*, 208, Longman Sci. Tech., Harlow, 1989.
- 18) D. Giachetti, L. Boccardo, F. Murat
“A generalization of a theorem of H. Brézis & F. E. Browder and applications to some unilateral problems”, *Ann. Inst. H. Poincaré Anal. Non Linéaire* 7 (1990), n. 4, 367--384.
- 19) D. Giachetti, L. Boccardo, J. I. Diaz, F. Murat.
“Existence and regularity of renormalized solutions for some elliptic problems involving derivatives of nonlinear terms”, *J. Differential Equations* 106 (1993), no. 2, 215--237.
- 20) D. Giachetti, R. Schianchi
“Minima of some nonconvex noncoercive problems”, *Ann. Mat. Pura Appl.* (4) 165 (1993), 109-120.

- 21) D. Giachetti, R. Schianchi
“An existence result for a nonconvex problem without upper growth conditions”, *Rend. Mat. Appl.* (7) 14 (1994), no. 3, 503-521.
- 22) D. Giachetti, F. Leonetti, R. Schianchi
“On the regularity of very weak minima”, *Proc. Roy. Soc. Edinburgh Sect. A* 126 (1996), n. 2, 287-296.
- 23) D. Giachetti, F. Leonetti, R. Schianchi
“Boundary higher integrability for the gradient of distributional solutions of nonlinear systems”, *Studia Math.* 123 (1997), n. 2, 175--184.
- 24) D. Giachetti, F. Leonetti, R. Schianchi
“Boundary regularity and uniqueness for very weak \mathcal{A} -harmonic functions”. Dedicated to Prof. C. Vinti (Perugia, 1996), *Atti Sem. Mat. Fis. Univ. Modena* 46 (1998), suppl., 765-769.
- 25) D. Giachetti, R. Schianchi
“An Agmon-Douglis-Nirenberg type result for some non linear equations”, *Rendiconti dell’Istituto di Matematica dell’Università di Trieste*, (1999).
- 26) D. Giachetti, M.M. Porzio
“Local regularity results for minima of functionals of the Calculus of Variations”, *Nonlinear Analysis T.M.A* vol 39 (2000).
- 27) D. Giachetti, M.M. Porzio
“Existence results for some non uniformly elliptic equations with irregular data”, *Journal of Mathematical Analysis and Applications* , 257, (2001)
- 28) D. Giachetti, A. Dall’Aglia, J.P. Puel
“Nonlinear elliptic equations with natural growth in general domains”, *Annali di Matematica Pura e Applicata* (4) 181, (2002), 407-426
- 29) D. Giachetti, M.M. Porzio
“ Elliptic equations with degenerate coercivity”: gradient regularity”, *Acta Mathematica, Academia Sinica* 19 (n.2), (2003).
- 30) D. Giachetti, A. Dall’Aglia, V. De Cicco, J.P. Puel
“Existence of solutions for nonlinear elliptic equations in unbounded domains”, *Nonlinear Differential Equations and Applications* 11 (2004), 431-450.
- 31) D. Giachetti, A. Dall’Aglia, I. Peral
“Results on parabolic equations related to some Caffarelli-Kohn-Nirenberg

inequalities" SIAM J. Math. Anal. Vol.36 n.3 (2004), pp.691-716.

32) D.Giachetti, A. Dall'Aglio, S.Segura de Leòn

"Semilinear parabolic equations with superlinear reaction terms and application to some convection-diffusion problems" (Proceedings of the Conference "Nonlinear Partial Differential Equations", Alushta, Ukraine, Sept 15-21, 2003 ,Ukranian mathematical bulletin, vol I, n.4 (2004), pp. 518-531)

33) D.Giachetti, A. Dall'Aglio, J.P. Puel

" Nonlinear parabolic equations with natural growth in general domains", B.U.M.I, 8B (2005), pp.653-683

34) D.Giachetti, A. Dall'Aglio, C. Leone, S.Segura de Leòn

"Quasi linear parabolic equations with degenerate coercivity having a quadratic gradient term" Ann. I.H.P. AN 23 (2006), 97-126

35) D.Giachetti, A. Dall'Aglio, S.Segura de Leòn

" Nonlinear parabolic problems with a very general quadratic gradient term ", Differential Integral Equations 20 (2007), n.4, 361-396.

36) D.Giachetti, G.Maroscia

"Porous medium type equations with a quadratic gradient term" Bollettino U.M.I. sez.B, 10 (2007), n.3, 753-759.

37) D.Giachetti, M.M. Porzio

"Global Existence for Nonlinear Parabolic Equations with a Damping Term" Comm. Pure Appl. Analysis, 8, n.3 (2009).

38) D.Giachetti, G.Maroscia

" Existence results for a class of porous medium type equations with a quadratic gradient term" J. Evol. Equ. 8, (2008), n.1, 155-188.

39) D.Giachetti, A. Dall'Aglio, I.Peral, S.Segura de Leòn

"Global existence for slightly super-linear parabolic equations with measure data", J. Math. Anal. Appl. 345 (2008), n. 2, 892-902.

40) D.Giachetti, A. Dall'Aglio, S.Segura de Leòn

"Global existence for parabolic problems involving the p-Laplacian and a critical gradient term", Indiana University Mathematics Journal, 58, (2009), n.1, 1-48.

41) D.Giachetti, L.Boccardo

"A nonlinear interpolation result with applications to the summability of minima of some integral functionals", Discrete and Continuous Dynamical Systems Series B, 11, (2009), n.1, 31-42.

- 42) D.Giachetti, F.Murat
“Elliptic problems with lower order terms having singular behaviour”, Boll. U.M.I. (9), II, (2009), 349-370.
- 43) D.Giachetti, M.M. Porzio
“ Existence and blow-up results for fast diffusion equations with nonlinear sources” Advanced Nonlinear Studies 10 (2010), 131-160
- 44) D. Giachetti, B.Abdellaoui, I. Peral, M.Walias
“Elliptic problems with nonlinear terms depending on the gradient and singular on the boundary”, Nonlinear Analysis TMA 74 (2011), 1355-1371.
- 45) D. Giachetti, S. Segura de Leon
“Quasilinear stationary problems with a quadratic gradient term having singularities” Journal of the London Mathematical Society 2012; doi: 10.1112/jlms/jds014
- 46) D. Giachetti, P.Donato
“Homogenization of some singular nonlinear elliptic problems”, International Journal of Pure and Applied Mathematics, 73, (2011), 349-378.
- 47) D. Giachetti, B.Abdellaoui, I.Peral, M.Walias
[Elliptic problems with nonlinear terms depending on the gradient and singular on the boundary: Interaction with a Hardy-Leray potential](#), Discrete and Continuous Dynamical Systems-Series A, 34, no. 5,(2014) 1747-1774, doi:[10.3934/dcds.2014.34.1747](#)
- 48) D.Giachetti, F.Petitta, S.Segura de Lèon
“Elliptic equations having a singular quadratic gradient term and a changing sign datum”, Communications on Pure and Applied Analysis”, 11, (2012), 1875-1895.
- 49) D.Giachetti, F.Petitta, S.Segura de Lèon
“A priori estimates for elliptic problems with a strongly singular gradient term and a general datum”, Differential and Integral Equations, 26, Number 9/10 (2013), 913-948.
- 50) I. de Bonis, D.Giachetti
“ Singular parabolic problems with possibly changing sign data”, accettato su Discrete and Continuous Dynamical Systems-Series B, (2014), 19, no. 7, 2047-2064.
- 51) I. de Bonis, D.Giachetti
“Nonnegative solutions for a class of singular parabolic problems involving Δp -laplacian”, Asymptotic Analysis, (2015), 91, no. 2, 147-183, doi: 10.3233/ASY-141257.

- 52) D. Giachetti, P.J. Martinez-Aparicio and F. Murat
“A semilinear elliptic equations with a mild singularities at $u = 0$: existence and homogeneization”, *J. Math. Pures et Appl.*, 107, (2017), pp. 41-77, <http://dx.doi.org/10.1016/j.matpur.2016.04.007>
- 53) D. Giachetti, P. J. Martinez-Aparicio and F. Murat
“Advances in the study of singular semilinear elliptic problems”,
Trends in differential equations and applications, ed. by F. Ortegon Gallego, V. Redondo Neble and J.R. Rodriguez Galvan. SEMA-SIMAI Springer Series {8}, Springer International Publishing Switzerland, (2016), 221-241.
- 54) D. Giachetti, P. J. Martinez-Aparicio and F. Murat
“Definition, existence, stability and uniqueness of the solution to a semi-linear elliptic problem with a strong singularity at $u = 0$ ”, *Annali della Scuola Normale Superiore di Pisa, Classe di Scienze* (in press), DOI Number: 10.2422/2036-2145.201612_008
- 55) D. Giachetti, P. J. Martinez-Aparicio and F. Murat
“Homogenization of elliptic problems with a strong singularity at $u = 0$ ”, *J. Funct. Anal.*, 274, (2018), pp. 1747-1789, <https://doi.org/10.1016/j.jfa.2017.11.007>
- 56) D. Giachetti, P. Donato
“Existence and homogenization for a singular problem through rough surfaces”, *SIAM J. Math. Anal.* 48-6 (2016), 4047-4086
<http://dx.doi.org/10.1137/15M1032107>
- 57) D. Giachetti, B. Vernescu, M.A. Vivaldi
“Asymptotic analysis of singular problems in perforated cylinders”, *Differential and Integral Equations*, (2016), 29, n.5/6, 531-562.
- 58) D. Giachetti, V. De Cicco and S. Segura de Leòn
"Elliptic problems involving the 1-Laplacian and a singular lower order term", submitted.
- 59) D. Giachetti, V. De Cicco, F. Oliva, F. Petitta
“The Dirichlet problem for singular elliptic equations with general nonlinearities”, submitted.
- 60) D. Giachetti, P. J. Martinez-Aparicio and F. Murat
“On the definition of the solution to a semilinear elliptic problem with a strong singularity at $u=0$ ” *Nonlinear Analysis* (in press).

PROCEEDINGS

- 1) D. Giachetti, R. Schianchi (1998). Higher integrability for the gradient of the solutions of a nonlinear Neumann problem. In: "First Pacific Rim Conference on Mathematics" Hong-Kong, January 19-23, 1998
- 2) D. Giachetti, M.M. Porzio (1998). Regolarità locale per minimi di funzionali del Calcolo delle Variazioni. In: S.I.M.A.I., IV Congresso Nazionale di Matematica Applicata e Industriale, June 1-5, 1998
- 3) D. Giachetti, A. Dall'Aglio, S. Segura de León (2003). Semilinear parabolic equations with superlinear reaction terms and application to some convection-diffusion problems. In: NPDE- Ucraina 2003
- 4) D. Giachetti, P. Donato (2011). Quasilinear singular elliptic equations. In: Evolution Equations and Materials with Memory ATTI DEL CONVEGNO. Roma, July 12-14, 2010, CASA EDITRICE UNIVERSITA' LA SAPIENZA
- 5) D. Giachetti, P. Donato, F. Petitta, S. Segura de Leon (2013). Singular problems: existence and homogenization results. In: E'quations aux de'rive'es partielles et leurs applications-Actes du colloque Edp-Normandie. Le Havre 2012. p. 61-67, Federation Normandie-Mathematiques Editions, ISBN: 9782954122113, Le Havre

MONOGRAPH

V. De Cicco, D. Giachetti
Metodi matematici per l'ingegneria.
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