# Publications

Nicoletta Tchou [*]

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# 1 Publications

## 1.1 Articles dans des revues

1. N. Tchou. Topological regularity of the set of solutions of a differential inclusion. *Nonlinear Anal., Theory Methods Appl.*, 11 :1135–1141, 1987.

2. N.A. Tchou. Existence of slow monotone solutions to a differential inclusion. *J. Math. Anal. Appl.*, 140(1) :26–53, 1989.

3. I. Capuzzo Dolcetta and N.A. Tchou. Equations elliptiques semi-lineaires avec potentiel singulier. (semilinear elliptic equations with singular potential). *C. R. Acad. Sci., Paris, Ser. I*, 309(20) :1007–1012, 1989.

4. N.A. Tchou. A neumann problem. *Boll. Unione Mat. Ital. Ser B*, VII(1) :127–141, 1990.

5. A. Dall'Aglio and N.A. Tchou. G-convergence and semilinear elliptic equations. *Asymptotic Analysis,*, 4 :367–380, 1991.

6. S. Finzi Vita and N. Tchou. Correctors results for relaxed Dirichlet problems. *Asymptotic Anal.*, 5(3) :269–281, 1992.

7. I. Capuzzo Dolcetta and N.A. Tchou. Stability of solutions of linear elliptic problems with singular potential. *Rendiconti di Matematica,Serie VII*, 12 :878–890, 1993.

8. M. Badiale and N.A. Tchou. Semilinear elliptic problems with singular potentials in $R^n$. *Proc. R. Soc. Edinb., Sect. A*, 123(4) :593–619, 1993.

9. M. Badiale and N.A. Tchou. An existence result for a singular elliptic problem in $R^n$. *C. R. Acad. Sci., Paris, Ser. I*, 318(6) :519–524, 1994.

10. S. Finzi Vita, F. Murat, and N. Tchou. Quasilinear relaxed dirichlet problems. *SIAM J. Math. Anal.*, 27(4) :977–996, 1996.

11. M. Biroli, U. Mosco, and N.A. Tchou. Homogenization for degenerate operators with periodical coefficients with respect to the Heisenberg group. *C. R. Acad. Sci. Paris Sér. I Math.*, 322(5) :439–444, 1996.

12. M. Biroli, U. Mosco, and N.A. Tchou. Homogenization by the Heisenberg group. *Adv. Math.Sci. Appl.*, 7(2) :809–831, 1997.

13. M. Biroli and N.Tchou. Asymptotic behaviour of relaxed dirichlet problems involving a dirichlet-poincaré form. *Zeitschrift fur Analysis und ihre Anwendungen*, 16(2) :281–309, 1997.

14. G. Dal Maso, V. De Cicco, L. Notarantonio, and N.A. Tchou. Limits of variational problems for Dirichlet forms in varying domains. *J. Math. Pures Appl. (9)*, 77(1) :89–116, 1998.

15. M. Biroli, C. Picard, and N.A. Tchou. Homogenization of the p- laplacian associated with the heisenberg group. *Rendiconti dell'Accademia Nazionale delle Scienze detta dei Quaranta, 116.*,Vol. XXII, fasc. 1, pagg.23-42, 1998.

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16. M. Biroli and N.A. Tchou. Relaxed dirichlet problem for the sub-elliptic p-laplacian. *Ann. Mat. Pura Appl. (4)*. Vol. 179, fasc. 1, pagg.39-64, 2001.

17. M. Biroli and N.A. Tchou. Relaxation for dirichlet problems involving a dirichlet form. *Zeitschrift fur Analysis und ihre Anwendungen.* ZAA, 19, 2000, 203-225.

18. S. Mataloni and N.A. Tchou. Limits of relaxed dirichlet problems involving a non-symmetric dirichlet form. *Annali di Matematica pura e Applicata.* (IV), Vol CLXXIX, pagg.65-93.

19. M. Biroli and N.A. Tchou. Nonlinear Subelliptic Problems with Measure Data *Rendiconti dell'Accademia Nazionale delle Scienze detta dei Quaranta, 117.*,Vol. XXIII, fasc. 1, pagg.57-82, 1999.

20. Y. Achdou and N.A. Tchou. A finite difference scheme for solutions of a periodic problem associated with the heisenberg group. *Numerishe Mathematik, 89.*,3, pagg.401-442, 2001.

21. M. Biroli C. Picard and N.A. Tchou. Error estimates for relaxed dirichlet problems involving a Dirichlet form. *Adv. Math.Sci. Appl.*,11, no. 2, pagg.673–684, 2001.

22. M.Briane, N.Tchou. Fibered microstructures for some nonlocal Dirichlet forms. *Ann. Scuola Norm. Sup. Pisa Cl. Sci. 4*,30, no. 3-4, pagg.681–711,2001.

23. M.Briane, N.Tchou. Boundary effects in fibered reforced media. *C. R. Acad. Sci. Paris Sér. I Math.*, 333(3) :173–177, 2001.

24. Y. Achdou and N.A. Tchou. Variational Analysis for the Black and Scholes Equation with Stochastic Volatility. *M2AN Math. Model. Numer. Anal.*, Vol. 36, pagg.373-395, 2002.

25. Y. Achdou and N.A. Tchou. The Black and Scholes Equation with Stochastic Volatility. Variational Methods. *C. R. Acad. Sci. Paris Sér. I Math.*, 332(11) :1031–1036, 2001.

26. M. Biroli C. Picard and N.A. Tchou. Asymptotic behavior of some nonlineaor subelliptic relaxed Dirichlet problems. *Rendiconti dell'Accademia Nazionale delle Scienze detta dei Quaranta* Vol. XXVI,(1), 55–113, 2002.

27. Y. Achdou, B. Franchi and N.A. Tchou A partial differential equation connected to option pricing with stochastic volatility : regularity results and discretization. *Mathematics of Computation*, Vol 74, 251, 1291–1322, 2004.

28. B. Franchi, N.A. Tchou and C.Tesi Div- Curl type theorem, H-convergence and Stokes Formula in the Heisenberg Group. *Communications in Contemporary Mathematics*, Vol. 8, No. 1 (February 2006), pp :65-99.

29. Y. Achdou, Christophe Sabot and N.A. Tchou. Conditions aux limites transparentes pour des problèmes aux limites dans des domaines ramifiés à frontière fractale. *C. R. Acad. Sci. Paris Sér. I Math.*, 342 (2006). - Numéro 8 - pp : 605-610 .

30. Y. Achdou and N.A. Tchou. Problèmes elliptiques dans des domaines ramifiés à frontière fractale et conditions aux limites transparentes. *C. R. Acad. Sci. Paris Sér. I Math.*, 342 (2006). - Numéro 8 - pp : 611-616 .

31. Y. Achdou, C. Sabot and N.A. Tchou Diffusion and Propagation Problems in Some Ramified Domains with a Fractal Boundary. *M2AN Math. Model. Numer. Anal.*,(2006).Vol. 40 No. 4, pp :623-652.

32. Y. Achdou, C. Sabot and N.A. Tchou A Multiscale Numerical Method for Poisson Problems in Some Ramified Domains with a Fractal Boundary. *SIAM Multiscale Model. Simul.*5,3, (2006), pp :828-860.

33. Y. Achdou, C. Sabot and N.A. Tchou Transparent Boundary Conditions for Helmholtz Equation in Some Ramified Domains with a Fractal Boundary. *Journal of Computational Physics* Volume 220, Issue 2 , 10 January 2007, Pages 712-739.

34. M. Biroli and N.A. Tchou Γ-Convergence for strongly local Dirichlet forms in perforated domains with homogeneous Neumann boundary conditions. Adv. Math. Sci. Appl. 17 (2007), no. 1, 149–179.

35. Y. Achdou and N.A. Tchou. Neumann conditions on fractal boundaries. Asymptot. Anal. 53 (2007), no. 1-2, 61–82. 35J05 (28A80 35J25)

36. A. Cutrì and N.A. Tchou. Fully nonlinear degenerate operators associated with the Heisenberg group : barrier functions and qualitative properties. C. R. Math. Acad. Sci. Paris 344 (2007), no. 9, 559–563.).

37. A. Cutrì and N.A. Tchou. Barrier functions for Pucci-Heisenberg operators and applications.International Journal of Dynamical Systems and Differential Equations 1 (2007), no. 2, 117–131..

38. Y. Achdou and N.A. Tchou. Trace Results on Domains with Self-Similar Fractal Boundaries.Journal de Mathématiques Pures et Appliquées,(9) 89 (2008), no. 6, 596–623.

39. A. Baldi, B. Franchi, N.A. Tchou and M. C. Tesi Compensated Compactness for Differential Forms in Carnot Groups and Applications Advances in Mathematics 223 (2010), pp. 1555-1607.

40. Y. Achdou and N.A. Tchou : Trace Theorems for a Class of Ramified Domains with Self-Similar Fractal Boundaries. SIAM Journal on Mathematical Analysis (2010-Vol.42, No.4) : DOI : 10.1137/090747294

## 1.2 Thèse d'habilitation.

1. Thèse d'habilitation : Formes de Dirichlet et Homogénéisation. *Université de Rennes 1.*

## 1.3 Preprint.

1. Y. Achdou, F. Camilli, A. Cutrì and N.A. Tchou : Hamilton-Jacobi equations on networks. hal-00503910, version 3, 2 novembre 2010 .

2. Y. Achdou, T.Deheuvels and N.A. Tchou : JLip versus Sobolev Spaces on a Class of Self-Similar Fractal Foliages.

## 1.4 Articles dans des Actes de congrès à comité de lecture.

1. N. A. Tchou. Homogenization for the Heisenberg operator. In Japan Gakkotosha, editor, *Proc. Int. Conf. Homogenization and Applications to Material Sciences, Nice,,* Math. Sciences and Appl., 1995.

2. M. Biroli, N.A. Tchou, and V. Zhikhov. Homogenization for heisenberg operator with neumann boundary conditions. In Ricerche di Matematica, editor, *volume dedicated to E. De Giorgi.*

3. Y. Achdou, C. Sabot and N.A. Tchou Helmholtz equation in some self-similar ramified domains and transparent boundary conditions *Journal of Numerical Mathematics, dedicated to Y.Kuznetsov,* accepté.

## 1.5 Ouvrage Collectif

1. Modélisation Mathématique : Un autre regard, Alain Lichnewsky Editeur, *Scopos XVI*, Mars 2002.