

Fellowship “Mino Bontempelli 1996”, *Accademia Nazionale dei Lincei*, spent at the Mathematics Department of the University of Bari (Italy) under the supervision of Prof. D. Fortunato, 6/5/1996 – 5/1/1997.

Fellowship of the *Istituto Nazionale di Alta Matematica* (INDAM), Roma (Italy), 1/12/1994–30/11/1995.

Education

Ph. D. Ph.D. *cum laude* in Mathematics, University of Granada, Spain, 30/06/2000. Title of the thesis: “Critical curves on Riemannian and Lorentzian manifolds with boundary”. Supervisors: Prof. D. Fortunato (University of Bari) and Prof. M. Sánchez (University of Granada).

Laurea Graduate *cum laude* in Philosophy, University of Bari, 19/07/2021. Title of the thesis: “Una lettura topologica dell’eterno ritorno. Tra Nietzsche e Moebius”. Supervisor: Prof. Annalisa Caputo.

Laurea Graduate *cum laude* in Mathematics, University of Bari, 16/03/1994. Title of the thesis: “Metodi variazionali nello studio di traiettorie periodiche su varietà Lorentziane”. Supervisor: Prof. Donato Fortunato.

Research Activity

Interests Variational and topological methods in the study of nonlinear differential equations; in particular, study of global problems in Riemannian, Finslerian, Lorentzian Geometry and of semilinear, quasilinear and non-local elliptic problems.

Projects Participation to the Research Project of the University of Bari “Metodi variazionali e topologici e problemi differenziali non lineari”, principal investigator Prof. D. Fortunato, 1995.

Participation to the Research Project of the University of Bari “Teoria dei punti critici ed applicazioni allo studio di equazioni differenziali non lineari”, principal investigator Prof. D. Fortunato, 1996.

Participation to the Research Project of the University of Bari “Teoria dei punti critici ed applicazioni allo studio di equazioni

differenziali non lineari", principal investigator Prof. D. Fortunato, 1997.

Participation to the MIUR-PRIN project 1996, "Metodi variazionali e topologici nello studio di fenomeni non lineari", principal investigator Prof. A. Marino.

Participation to the MIUR-PRIN project 1997, "Equazioni differenziali e calcolo delle variazioni", principal investigator Prof. L. Ambrosio.

Participation to the MIUR-PRIN project 1999 "Metodi variazionali e topologici nello studio di fenomeni non lineari", principal investigator Prof. V. Benci.

Participation to the Research Project of the Polytechnic University of Bari "Problemi differenziali, aspetti qualitativi e metodi di approssimazione", principal investigator Prof. A. Capozzi, 1999.

Participation to the Research Project of the Polytechnic University of Bari "Problemi differenziali, aspetti qualitativi e metodi di approssimazione", principal investigator Prof. A. Capozzi, 2000.

Participation to the MIUR-PRIN project 2001, "Metodi variazionali e topologici nello studio di fenomeni non lineari", principal investigator Prof. V. Benci.

Participation to the Research Project of the Polytechnic University of Bari "Problemi differenziali, aspetti qualitativi e metodi di approssimazione", principal investigator Prof. A. Capozzi, 2001.

Participation to the Research Project of the Polytechnic University of Bari "Principi variazionali e applicazioni", principal investigator Prof. S. Solimini, 2002.

Participation to the MIUR-PRIN project 2003, "Metodi variazionali e topologici nello studio di fenomeni non lineari", principal investigator Prof. V. Benci.

Participation to the MIUR-PRIN project 2005, "Metodi variazionali e topologici nello studio di fenomeni non lineari", principal investigator Prof. V. Benci.

Participation to the MIUR-PRIN project 2007, "Metodi variazionali e topologici nello studio di fenomeni non lineari", principal investigator Prof. V. Benci.

Participation to the 2009 Project *Azione Integrata Italia–Spagna* “Metodi Variazionali e Topologici in Analisi Nonlineare e Geometria con Applicazioni”, principal investigators Prof. G. Cerami and Prof. M. Sánchez.

Participation to the PRIN project 2009, “Metodi variazionali e topologici nello studio di fenomeni non lineari”, principal investigator Prof. V. Benci.

Participation to the 2011 GNAMPA Research Project “Analisi geometrica sulle varietà di Lorentz e applicazioni alla Relatività Generale”, principal investigator Prof. A. Masiello (27/04/2011-26/04/2012).

Participation to the 2012 GNAMPA Research Project “Analisi geometrica sulle varietà di Lorentz e applicazioni alla Relatività Generale”, principal investigator Prof. A. Masiello (9/05/2012-8/05/2013).

Principal investigator of the Research Project of the Polytechnic University of Bari “Problemi ellittici perturbati”, 2011.

Participation to the 2014 GNAMPA Research Project “Proprietà geometriche e analitiche per problemi non-locali”, principal investigator Dr. G. Molica Bisci (11/03/2014-10/03/2015).

Participation to the 2015 GNAMPA Research Project “Modelli ed equazioni non-locali di tipo frazionario”, principal investigator Dr. G. Molica Bisci (11/03/2015-10/03/2016).

Participation to DiSBeF Research Project “Fenomeni non-locali: modelli e applicazioni”, principal investigator Prof. Raffaella Servadei, grant period: September 1, 2015 - August 31, 2017.

Principal investigator of the 2016 GNAMPA Research Project “Fenomeni non-locali: teoria, metodi e applicazioni” (18/03/2016-17/03/2017)

Principal investigator of the Research Project of the Polytechnic University of Bari “Proprietà analitiche e geometriche di fenomeni non-locali”, 2016.

Principal investigator of the 2017 GNAMPA Research Project “Metodi variazionali per fenomeni non-locali” (15/03/2017-26/09/2017)

Grants	GNAMPA financial support for the participation to Meetings, Schools and Workshops: May 2012, March 2014, May 2014, September 2014, November 2015, May 2016. Finanziamento delle Attività Base di Ricerca FFABR 2017.
Awards	<i>Premio Extraordinario de Doctorado 2000</i> , University of Granada, Spain.
Memberships	GNAMPA (Gruppo Nazionale per l'Analisi Matematica, la Probabilità e loro Applicazioni) since 2001 (ex GNAFA, since 1999).
Invited talks	<p>“Teoria di Morse per le traiettorie di sistemi lagrangiani su varietà riemanniane con bordo convesso”, invited seminar at the Mathematics Department of the University of Bari, May 25, 1996, Bari, Italy.</p> <p>“Metodos variacionales en geometría lorentziana”, invited seminar at the <i>Seminario de Geometría</i> of the Department of Geometry and Topology of Granada University, March 3, 1998, Granada, Spain.</p> <p>“Curvas extremales en variedades lorentzianas con borde I”, invited seminar at the <i>Seminario de Geometría</i> of the Department of Geometry and Topology of Granada University, September 30, 1999, Granada, Spain.</p> <p>“Curvas extremales en variedades lorentzianas con borde II”, invited seminar at the <i>Seminario de Geometría</i> of the Department of Geometry and Topology of Granada University, October 1, 1999, Granada, Spain.</p> <p>“Remarks on some variational problems on non-complete manifolds”, invited talk at the <i>Third World Congress of Nonlinear Analysts, WCNA 2000</i>, July 19-26, 2000, Catania, Italy.</p> <p>“Punti critici e convessità su varietà con bordo”, invited talk at <i>Metodi Variazionali e Topologici nello Studio di Fenomeni non Lineari</i>, April 9–11, 2001, San Mommè (Pistoia), Italy.</p> <p>“Optimal growth conditions in some global problems on Riemannian and Lorentzian manifolds” invited talk at <i>Variational and Topological Methods in Nonlinear Phenomena</i>, May 1–5, 2008, Otranto (Lecce), Italy.</p>

“Critical behavior in some Bolza-type problems” invited talk at the *Analysis and Geometry day*, June 16, 2008, Granada, Spain.

“Convexity of domains in a Finsler manifold”, invited talk at the *Workshop on Finsler Geometry and its Applications*, May 24–29, 2009, Debrecen, Hungary.

“Minimizing geodesics on non-complete Finsler manifolds”, invited talk at the conference *International Meeting on Differential Geometry*, November 15–17, 2010, Córdoba, Spain.

“Geodesic connectedness on Finsler manifolds”, invited seminar for the Ph.D. lectures *Elements of Calculus of Variations with Applications to the Study of Geodesics* at the Mathematics Department of the University of Bari, December 10, 2010, Bari, Italy.

“Multiplicity results for p -Laplacian problems”, invited seminar at the *Seminario de Geometría* of the Department of Geometry and Topology of Granada University, November 6, 2012, Granada, Spain.

“Multiplicity results for asymptotically “linear” p -Laplacian problems”, invited seminar at the *Seminario Lorentz* of the Department of Algebra, Geometry and Topology of Malaga University, November 8, 2012, Málaga, Spain.

“Geodesic connectedness on globally hyperbolic spacetimes with a lightlike Killing vector field”, invited talk at the conference *Seminar on Differential Equations and Geometry*, April 1, 2014, Reggio Calabria, Italy.

“Perturbed p -Laplacian problems”, invited speaker at the Minisymposium: *Recent trends in nonlinear analysis and its applications, 8th European Conference on Elliptic and Parabolic Problems*, May 26–30, 2014, Gaeta (Latina), Italy.

“Nontrivial solutions for p -Laplace equations”, invited speaker at the Special Session: *Variational Methods for Discrete and Continuous Boundary Value Problems (with Applications), The 10th AIMS Conference on Dynamical Systems, Differential Equation and Applications*, July 6–11, 2014, Madrid, Spain.

“On the existence of geodesics on globally hyperbolic spacetimes with a lightlike Killing vector field”, invited

speaker at the *XXIII International Fall Workshop on Geometry and Physics*, September 2–5, 2014, Granada, Spain.

“**A pseudo–index approach to fractional equations**”, invited seminar at the Department of Applied Analysis, April 14, 2015, Málaga, Spain.

“**Multiplicity results for a class of fractional equations**”, invited talk at *Two nonlinear days in Urbino*, July 2–3, 2015, Urbino, Italy.

“**Fractional p –Laplacian problems with asymptotically linear right hand side**”, invited talk at *International Conference on Nonlinear Operators, Differential Equations and Applications (ICNODEA)*, July 14–17, 2015, Cluj–Napoca, Romania.

“**Connectivity by geodesics on a class of globally hyperbolic spacetimes**”, invited seminar at the *Seminario Lorentz* of the Department of Algebra, Geometry and Topology of Malaga University, April 25, 2016, Málaga, Spain.

“**On a class of superlinear (p, q) –Laplacian type equations on \mathbf{R}^N** ”, invited speaker at the Minisymposium: *Nonlinear models and beyond, 9th European Conference on Elliptic and Parabolic Problems*, 23–27 Maggio 2016, Gaeta (Latina).

“**Recent results about geodesic connectedness on a class of globally hyperbolic spacetimes**”, invited talk at *Two nonlinear days in Urbino*, 7–8 Luglio 2016, Urbino.

“**Recent results on (p, q) –Laplacian type equations**”, invited seminar at the *Seminario Lorentz* of the Department of Algebra, Geometry and Topology of Malaga University, May 22, 2017, Málaga, Spain.

“**Tempo e ritorno**”, dialogo con G. B. Adesso e A. Caputo, *Abbecedario della cittadinanza, Filosofia in comune*, a cura della sezione barese della Società filosofica italiana, Chiostro del Palazzo della cultura, 26–30 maggio 2021, Noicattaro (Bari).

Talks

“**Traiettorie periodiche su varietà lorentziane**”, contributed talk at the *XV Congresso dell’Unione Matematica Italiana*, September 11–16, 1995, Padova, Italy.

“**Domini convessi di varietà Riemanniane**”, contributed talk at the *XVI Congresso dell’Unione Matematica Italiana*,

September 13–18, 1999, Napoli, Italy.

“**Curvas extremales en variedades Riemannianas y Lorentzianas con borde**”, contributed talk at the *VII Encuentro de Geometría y Física*, September 23–25, 1999, Medina del Campo, Spain.

“**Extremal curves in Riemannian and Lorentzian manifolds with boundary**”, contributed talk at the congress *Alhambra 2000*, July 3–7, 2000, Granada, Spain.

“**Geodetiche su varietà lorentziane**”, contributed talk at the *XVII Congresso dell’Unione Matematica Italiana*, September 8–13, 2003, Milano, Italy.

“**Connessione geodetica in spazi-tempo stazionari standard e applicazioni**”, contributed talk at the *XVIII Congresso dell’Unione Matematica Italiana*, September 24–29, 2007, Bari, Italy.

“**Geodesic connectedness on Gödel type spacetimes: a “static” variational set-up**”, contributed talk at the *VI International Meeting on Lorentzian Geometry*, September 6–9, 2011, Granada, Spain.

“ **p -Laplacian problems with nonlinearities interacting with the spectrum**”, contributed talk at the *The International Workshop on Functional Analysis*, October 12–14, 2012, Timisoara, Romania.

“**Existence of solutions for a class of p -Laplacian problems**”, contributed talk at the workshop *Nonlinear Partial Differential Equations on the occasion of J. Mazón’s 60th birthday*, July 1–5, 2013, Burjassot, Valencia, Spain.

“**Asymptotically p -linear problems for the p -Laplacian**”, contributed talk at the *School on Nonlinear Elliptic Problems*, January 20–24, 2014, Milano, Italy.

Contributions Note entitled “**A note on closed geodesics**” (in collaboration with A. Germinario and M. Sánchez) at *Equadiff 10, Czechoslovak International Conference on Differential Equations and Their Applications*, August, 27–31, 2001, Prague, Czech Republic.

Poster entitled “**Connection by geodesics on globally hy-**

perbolic spacetimes with a lightlike Killing vector field”
(in collaboration with A.M. Candela and J.L. Flores) at the *International Meeting on Lorentzian and Conformal Geometry*, March 18–21, 2014, Greifswald, Germany.

Workshops

Incontro Svevo–Pugliese su Semigrupperi di operatori e Equazioni di evoluzione, March 28–April 2, 1994, Ruvo di Puglia (Bari), Italy.

ESF/FBP workshop on Free boundary problems in reaction–diffusion systems and applications, IRMA-CNR, October 5–8, 1994, Bari, Italy.

Scuola Internazionale di Equazioni Differenziali e Calcolo delle Variazioni, September 16–28, 1996, Pisa, Italy.

Differential Equations and Calculus of Variations, October 24–30, 1999, Isola d’Elba (Livorno), Italy.

Giornate Nonlineari, November 11–13, 1999, Bologna, Italy.

A Week-End in Nonlinear Analysis, March 9–10, 2001, Roma, Italy.

Singularity in nonlinear elliptic problems, May 16–18, 2001, Roma, Italy.

Workshop on Nonlinear differential equations, July 9–13, 2001, Bergamo, Italy.

Giornate Nonlineari, January 9–11, 2003, Roma, Italy.

Current trends in Nonlinear Analysis, June 12–16, 2006, Otranto (Lecce), Italy.

Some topics in Nonlinear Analysis and Applications to Partial Differential Equations, January 29–31, 2007, Roma, Italy.

IperBA09 XIII Incontro nazionale problemi di tipo iperbolico, February 11–13, 2009, Bari, Italy.

V International Meeting on Lorentzian Geometry (GeLoBa2009), July 8–11, 2009, Martina Franca (Taranto), Italy.

Second Meeting of Women of the Laplacian, June 3–6, 2010, Monopoli (Bari), Italy.

Variational and topological methods in nonlinear phenomena, September 20–23, 2010, Cortona (Arezzo), Italy.

An introduction to general relativity from a mathematical point of view, November 18, 2010, Córdoba, Spain.

Workshop on Nonlinear Differential Equations, November 7–11, 2011, Pienza (Siena), Italy.

Workshop on Nonlinear Partial Differential Equations, May 28–June 1, 2012, Perugia, Italy.

International Meeting on Lorentzian and Conformal Geometry, March 18–21, 2014, Greifswald, Germany.

Recent Trends on Nonlinear Phenomena, Università “Mediterranea” di Reggio Calabria, November 5–7, 2014, Reggio Calabria, Italy.

A nonlinear day, June 15, 2015, Bari, Italy.

2nd Conference on Recent Trends on Nonlinear Phenomena, November 4–6, 2015, Naples, Italy.

VIII International Meeting on Lorentzian Geometry (GeLoMa2016), September 20–23, 2016, Malaga, Spain.

New trends in Partial Differential Equations. Un homenaje a Ireneo Peral, May 24–26, 2017, Granada, Spain.

INdAM Workshop on Modeling and computational approaches to Biology and Medicine (MOBI-2017), June 26–28, 2017, Rome, Italy.

IX International Meeting on Lorentzian Geometry, June 18–23, 2018, Warsaw, Poland.

Intensional Logic and Metaphysics of Intentionality, 30 years later - Philosophical Workshops, June 20, 2018, Warsaw, Poland.

Winter School on Mathematics for Engineering Applications, January 27–31, 2020, Bari, Italy.

X International Meeting on Lorentzian Geometry (GeLoCor2021), February 1–5, 2021, online.

Giornata INdAM Matematica e Industria con lo sguardo della Prof.ssa Rosa Maria Mininni, May 28, 2021, online.

Singularity theorems, causality, and all that. A tribute to Roger Penrose, June 14–18, 2021, online.

RoMANs: Research on Mathematical Analysis and Semigroups. On the occasion of Silvia Romanelli's 70th Birthday, July 8-9, 2021, online.

Recent Developments in Mathematical Analysis. On the occasion of Francesco Altomare's 70th birthday, September 23-24, 2021, online.

Giornata INdAM "Matematica e Industria: dalle ricerche di base alle applicazioni", 16 Novembre 2021, Politecnico di Bari, Bari.

Visits abroad 10-19 May 1999: University of Granada (Spain)
26 September 1999-2 October 1999: University of Granada (Spain)
14 June 2000-2 July 2000: University of Granada (Spain)
14-18 June 2008: University of Granada (Spain)
14-17 November 2010: University of Córdoba (Spain)
18-20 November 2010: University of Granada (Spain)
4-7 November 2012: University of Granada (Spain)
7-11 November 2012: University of Malaga (Spain)
12 -15 April 2015: University of Malaga (Spain)
24-26 April 2016: University of Malaga (Spain)
20-23 May 2017: University of Malaga (Spain)

Editorial Activity

Guest Editor for the Special Issue: *New Trends in Nonlinear Phenomena*, in *Minimax Theory and its Applications*, vol. 1-2 (2017)

Referee Activity

Referee for the journals: *Journal of Differential Equations*, *Soochow Journal of Mathematics*, *ISRN Geometry*, *Journal of Advanced Mathematical Studies*, *Mediterranean Journal of Mathematics*, *Electronic Journal of Differential Equations*, *Reports on Mathematical Physics*, *Journal of Mathematical Analysis and Applications*, *Nonlinear Analysis: Theory, Methods & Applications*, *Zeitschrift für Angewandte Mathematik und Physik*, *Asymptotic Analysis*, *Classical and Quantum Gravity*, *Advances in Nonlinear*

Analysis, Mathematical Methods in the Applied Sciences, Electronic Journal of Qualitative Theory of Differential Equations, Lithuanian Mathematical Journal, Nonlinear Analysis Series B: Real World Applications, Boundary value problems, Advances in Mathematical Physics, Taiwanese J.Math..

Reviewer for Mathematical Reviews since 2000.

Organization

Member of the organizing committee of the workshop *V International Meeting on Lorentzian Geometry (GeLoBa2009)*, July 8–11, 2009, Martina Franca (Taranto), Italy.

Member of the organizing committee of the scientific meeting *Intorno ad alcune applicazioni della matematica*, Polytechnic University of Bari, November 18, 2009, Bari, Italy.

Member of the organizing committee of the conference *Recent Trends on Nonlinear Phenomena*, University “Mediterranea” of Reggio Calabria, November 5–7, 2014, Reggio Calabria, Italy.

Member of the organizing committee of the conference *2nd Conference on Recent Trends on Nonlinear Phenomena*, November 4–6, 2015, Naples, Italy.

Member of the organizing committee of the conference *3rd Conference on Recent Trends on Nonlinear Phenomena*, September 28–30, 2016, Perugia, Italy.

Member of the organizing committee of the workshop *Seminars on Analysis and Geometry*, Polytechnic University of Bari, February 22, 2017, Bari, Italy.

Committees

Member of the committee of the post-doc fellowship, for the research entitled: “Modelli variazionali di ramificazioni e teoria del trasporto ottimo”, sector MAT/05, Polytechnic University of Bari, September, 2007.

Member of the Ph.D. committee, sector MAT/05, *21^o ciclo*, Mathematics Department of the University of Bari, May 2011.

Member of the Ph.D. committee, *27^o and 28^o ciclo*, Mathematics Department of the University of Bari, April 2016.

Publications

Papers

1. R. Bartolo, A. Masiello, On the existence of infinitely many

- trajectories for a class of static Lorentzian manifolds like Schwarzschild and Reissner-Nordström space-times, *J. Math. Anal. Appl.* **199** (1996), 14-38.
2. R. Bartolo, Periodic orbits on Riemannian manifolds with convex boundary, *Discrete Contin. Dyn. Syst.* **3** (1997), 439-450.
 3. R. Bartolo, A. Masiello, Morse theory for trajectories of Lagrangian systems on Riemannian manifolds with convex boundary, *Adv. Differential Equations* **2** (1997), 593-618.
 4. R. Bartolo, Trajectories connecting two events of a Lorentzian manifold in the presence of a vector field, *J. Differential Equations* **153** (1999), 82-95.
 5. R. Bartolo, A. Germinario, M. Sánchez, Periodic trajectories with fixed energy on Riemannian and Lorentzian manifolds with boundary, *Ann. Mat. Pura Appl.* **177** (1999), 241-262.
 6. R. Bartolo, A. Germinario, Geodesics with prescribed energy on static Lorentzian manifolds with convex boundary, *J. Geom. Phys.* **32** (2000), 293-310.
 7. R. Bartolo, E. Mirengi, M. Tucci, Periodic trajectories on Lorentzian manifolds under the action of a vector field, *J. Differential Equations* **166** (2000), 478-500.
 8. R. Bartolo, Periodic trajectories on stationary Lorentzian manifolds, *Nonlinear Anal.* **43** (2001), 883-903.
 9. R. Bartolo, M. Sánchez, Remarks on some variational problems on non-complete manifolds, *Nonlinear Anal.* **47** (2001), 2887-2892.
 10. R. Bartolo, A. Germinario, Trajectories joining two submanifolds under the action of gravitational and electromagnetic fields on static spacetimes, *Math. Phys. Anal. Geom.* **5** (2002), 125-143.
 11. R. Bartolo, A. Germinario, M. Sánchez, A note on the boundary of a static Lorentzian manifold, *Differential Geom. Appl.* **16** (2002), 121-131.
 12. R. Bartolo, A. Germinario, M. Sánchez, Existence of a closed geodesic on non-compact Riemannian manifolds with boundary, *Adv. Nonlinear Stud.* **2** (2002), 51-69.

13. R. Bartolo, A. Germinario, M. Sánchez, Convexity of domains of Riemannian manifolds, *Ann. Global Anal. Geom.* **21** (2002), 63-83.
14. R. Bartolo, Trajectories under a vectorial potential on stationary manifolds, *Int. J. Math. Math. Sci.* **23** (2003), 1481-1495.
15. R. Bartolo, A.M. Candela, J.L. Flores, M. Sánchez, Geodesics in static Lorentzian manifolds with critical quadratic behavior, *Adv. Nonlinear Stud.* **3** (2003), 471-494.
16. R. Bartolo, A. Germinario, M. Sánchez, Trajectories connecting two submanifolds on non-complete Lorentzian manifolds, *Electron. J. Differential Equations* **10** (2004), 1-20.
17. R. Bartolo, A. Germinario, M. Sánchez, Orthogonal trajectories on stationary spacetimes under intrinsic assumptions, *Topol. Methods Nonlinear Anal.* **24** (2004), 239-268.
18. R. Bartolo, A.M. Candela, Quadratic Bolza problems in static spacetimes with critical asymptotic behavior, *Mediterr. J. Math.* **2** (2005), 459-470.
19. R. Bartolo, A.M. Candela, J.L. Flores, Timelike geodesics in stationary Lorentzian manifolds with unbounded coefficients, *Discrete Contin. Dyn. Syst. Supplement Volume* (2005), 70-76.
20. R. Bartolo, A.M. Candela, J.L. Flores, A. Salvatore, Periodic trajectories in Plane Wave type spacetimes, *Discrete Contin. Dyn. Syst. Supplement Volume* (2005), 77-83.
21. R. Bartolo, A. Germinario, Timelike spatially closed trajectories under a potential on splitting Lorentzian manifolds, *Commun. Appl. Anal.* **9** (2005), 177-205.
22. R. Bartolo, A.M. Candela, J.L. Flores, Geodesic connectedness of stationary spacetimes with optimal growth, *J. Geom. Phys.* **56** (2006), 2025-2038.
23. R. Bartolo, A.M. Candela, J.L. Flores, A. Salvatore, Periodic orbits on Riemannian manifolds under the action of an at most quadratic potential, *Differential Geom. Appl.* **24** (2006), 108-118.
24. R. Bartolo, A. Germinario, Orthogonal trajectories on Riemannian manifolds and applications to Plane Wave type spacetimes, *Nonlinear Anal.* **66** (2007), 2355-2363.

25. R. Bartolo, A.M. Candela, Normal trajectories in stationary spacetimes under the action of an external field, *Extracta Mathematicae* **23** (2008), 243-253.
26. R. Bartolo, A. Germinario, Convexity conditions on the boundary of a stationary spacetime and applications, *Comm. Contemp. Math.* **11** (2009), 739-769.
27. R. Bartolo, Geodesics on non-complete Finsler manifolds, *Acta Math. Acad. Paedagog. Nyházi. (N.S.)* **26** (2010), 209-219.
28. R. Bartolo, A.M. Candela, E. Caponio, Normal geodesics connecting two non-necessarily spacelike submanifolds in a stationary spacetime, *Adv. Nonlinear Stud.* **10** (2010), 851-866.
29. R. Bartolo, A. Germinario, Trajectories of a charge in a magnetic field on Riemannian manifolds with boundary, *Dyn. Contin. Discrete Impuls. Syst. Ser. A Math. Anal.* **17** (2010), 363-376.
30. R. Bartolo, A.M. Candela, J.L. Flores, A note on geodesic connectedness in Gödel type spacetimes, *Differential Geom. Appl.* **29** (2011), 779-786.
31. R. Bartolo, E. Caponio, A.V. Germinario, M. Sánchez, Convex domains of Finsler and Riemannian manifolds, *Calc. Var. Partial Differential Equations* **40** (2011), 335-356.
32. R. Bartolo, Infinitely many solutions for quasilinear elliptic problems with broken symmetry, *Adv. Nonlinear Stud.* **13** (2013), 739-749.
33. R. Bartolo, A.M. Candela, A. Salvatore, p -Laplacian problems with nonlinearities interacting with the spectrum, *NoDEA* **20** (2013), 1701-1721.
34. R. Bartolo, A.M. Candela, A. Salvatore, Infinitely many radial solutions of a non-homogeneous p -Laplacian problem, in: "Proceedings of the 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications" (D. Costa, W. Feng, Z. Feng, X. Lu, X. Sun, M. Taniguchi, A. Vitolo & A.A. Yakubu Eds), *Discrete Contin. Dynam. Syst. Suppl.* **2013**, AIMS Press (2013), 51-59.
35. R. Bartolo, Multiplicity results for a class of quasilinear elliptic problems, *Mediterr. J. Math.* **11** (2014), 1099-1113.

36. R. Bartolo, A.M. Candela, A. Salvatore, Perturbed asymptotically linear problems, *Ann. Mat. Pura Appl.* **193** (2014), 89-101.
37. R. Bartolo, A.M. Candela, J.L. Flores, Connection by geodesics on open subsets of globally hyperbolic spacetimes, *International Journal of Geometric Methods in Modern Physics* **12** (2015), 1560009 (9 pages).
38. R. Bartolo, A.M. Candela, A. Salvatore, Infinitely many solutions for a perturbed Schrödinger equation, in: "Proceedings of the 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications" (M. de Leon, W. Feng, Z. Feng, X. Lu, J.M. Martell, J. Parcet, D. Peralta-Salas & W. Ruan Eds), *Discrete Contin. Dynam. Syst., AIMS Proceedings 2015* (2015), 94-102.
39. R. Bartolo, G. Molica Bisci, A pseudo-index approach to fractional equations, *Expo. Math.* **33** (2015), 502-516.
40. R. Bartolo, A.M. Candela, A. Salvatore, Multiplicity results for a class of asymptotically p -linear equations on \mathbf{R}^N , *Comm. Contemp. Math.* **18** (2016), 1550031 (24 pages).
41. R. Bartolo, A.M. Candela, A. Salvatore, On a class of superlinear (p, q) -Laplacian type equations on \mathbf{R}^N , *J. Math. Anal. Appl.*, **438** (2016), 29-41.
42. R. Bartolo, G. Molica Bisci, Asymptotically linear fractional p -Laplacian equations, *Ann. Mat. Pura Appl.*, **196** (2017), 427-442.
43. R. Bartolo, A.M. Candela, J.L. Flores, Connection by geodesics on globally hyperbolic spacetimes with a lightlike Killing vector field, *Rev. Mat. Iberoam.*, **33** (2017), 1-28.
44. R. Bartolo, A. Fiscella, Multiple solutions for a class of Schrödinger equations involving the fractional p -Laplacian, *Minimax Theory and its Applications*, **2** (2017), 9-25.
45. R. Bartolo, P. De Nápoli, A. Salvatore, Infinitely many solutions for non-local problems with broken symmetry, *Adv. Nonlinear Anal.*, **7** (2018), 353-364.
46. R. Bartolo, E. Colorado, G. Molica Bisci, Perturbed problems involving the square root of the Laplacian, *Minimax Theory and*

its Applications, 4 (2019), 33-54.

47. V. Ambrosio, R. Bartolo, G. Molica Bisci, A multiplicity result for a non-local parametric problem with periodic boundary conditions, *Arkiv för Matematik*, 58 (2020), 1-18.

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Teaching

- Courses**
- 2001-2002: *Calculus I*, Telecommunications, Information Science and Automation Engineering (S-Z), Polytechnic University of Bari.
- 2002-2003: *Calculus I*, Information Science and Automation Engineering (A-L), Polytechnic University of Bari.
- 2002-2003: *Calculus II*, Information Science and Automation Engineering (A-L), Polytechnic University of Bari.
- 2003-2004: *Calculus I*, Telecommunications Engineering, Polytechnic University of Bari.
- 2005-2006: *Calculus II*, Telecommunications Engineering, Polytechnic University of Bari.
- 2006-2007: *Calculus I*, Telecommunications Engineering, Polytechnic University of Bari.
- 2007-2008: *Calculus I*, Telecommunications Engineering, Polytechnic University of Bari.
- 2007-2008: *Mathematical models for engineering*, Specialistic Telecommunications Engineering, Polytechnic University of Bari.
- 2008-2009: *Calculus II*, Telecommunications Engineering, Polytechnic University of Bari.
- 2009-2010: *Calculus, first and second part*, Information Science and Automation Engineering, Polytechnic University of Bari.

2010-2011: *Calculus, second part*, Information Science and Automation Engineering, Polytechnic University of Bari.

2011-2012: *Calculus, second part*, Information Science and Automation Engineering, Polytechnic University of Bari.

2012-2013: *Calculus I*, Building Engineering, Polytechnic University of Bari.

2013-2014: *Advanced Calculus*, Electronic and Telecommunications Engineering, Polytechnic University of Bari.

2014-2015: *Calculus I*, Electronic and Telecommunications Engineering, Polytechnic University of Bari.

2014-2015: *Calculus II*, Electronic and Telecommunications Engineering, Polytechnic University of Bari.

2015-2016: *Calculus I*, Electronic and Telecommunications Engineering, Polytechnic University of Bari.

2016-2017: *Calculus, first part*, group B, Polytechnic University of Bari.

2017-2018: *Calculus, first part*, group B, Polytechnic University of Bari.

2017-2018: *Calculus, second part*, group B, Polytechnic University of Bari.

2018-2019: *Calculus, first part*, group B, Polytechnic University of Bari.

2019-2020: *Calculus, first part*, group B, Polytechnic University of Bari.

2019-2020: *Calculus, second part*, group B, Polytechnic University of Bari.

2020-2021: *Calculus, first part*, group B, Polytechnic University of Bari.

2020-2021: *Calculus, second part*, group B, Polytechnic University of Bari.

2021-2022: *Calculus, first part*, group B, Polytechnic University of Bari.

2021-2022: *Calculus, second part*, group B, Polytechnic University of Bari.

Tutorials

1999-2000: Calculus I (Electronic Engineering, Polytechnic University of Bari).

1999-2000: Calculus II (Electronic Engineering, Polytechnic University of Bari).

2000-2001: Calculus I (Electronic Engineering, Polytechnic University of Bari).

2000-2001: Calculus II (Electronic Engineering, Polytechnic University of Bari).

2001-2002: Calculus I (Electronic Engineering, Polytechnic University of Bari).

2001-2002: Calculus I (Information Science and Automation Engineering (A-R), Polytechnic University of Bari).

2002-2003: Calculus I (Electronic Engineering, Polytechnic University of Bari).

2002-2003: Calculus II (Electronic Engineering, Polytechnic University of Bari).

2002-2003: Calculus I (Telecommunications Engineering, Polytechnic University of Bari).

2002-2003: Calculus II (Telecommunications Engineering, Polytechnic University of Bari).

2003-2004: Calculus I (Electronic Engineering, Polytechnic University of Bari).

2003-2004: Calculus II (Electronic Engineering, Polytechnic University of Bari).

2003-2004: Calculus II (Telecommunications Engineering, Polytechnic University of Bari).

2003-2004: Calculus (Environmental and Territorial Engineering, Polytechnic University of Bari).

2004-2005: Calculus I (Electronic Engineering, Polytechnic University of Bari).

2005-2006: Calculus I (Electronic Engineering, Polytechnic University of Bari).

2005-2006: Calculus II (Electronic Engineering, Polytechnic University of Bari).

2005-2006: Advanced Calculus (Specialistic Electronic Engineering, Polytechnic University of Bari).

2006-2007: Calculus I (Electronic Engineering, Polytechnic University of Bari).

2006-2007: Calculus I (Information Science and Automation Engineering course B, Polytechnic University of Bari).

2008-2009: Advanced Calculus (Specialistic Electronic Engineering, Polytechnic University of Bari).

2008-2009: Calculus III (Specialistic Telecommunications Engineering, Polytechnic University of Bari).

Academic Services

Member of the English Evaluation Committee, Electronic Engineering, Polytechnic University of Bari (2000/2001).

Member of the committee for the educational proposal for Electronic Engineering, Polytechnic University of Bari (2005/2006).

Member of the committee for the educational proposal for Telecommunications Engineering, Polytechnic University of Bari (2005/2006).

Member of the *Comitato per le Pari Opportunità*, Polytechnic University of Bari (1/10/2009 – 30/09/2012).

Member of the *Redazione della Newsletter*, Polytechnic University of Bari (2009–2011).

Member of the committee for the “Osservatorio Regionale sulla comunicazione di genere”, Polytechnic University of Bari, September 23, 2011.

Member of the *Giunta del Dipartimento di Meccanica, Matematica e Management (DMMM)*, 14/10/2021–present.

Bari, February 1, 2022