

CURRICULUM VITAE - TIZIANA CARDINALI

PERSONAL DATA

Full Name:: Tiziana Cardinali

Place and Date of Birth: Birth, Foligno (PG) (Italy), 6/3/1959

Citizenship: italian

Marital status: married, four sons

CURRICULUM STUDIORUM and POSITIONS

11/11/1983: Ph.D. in Mathematics (with the grade 110/110 and laudem), University of Perugia, (Italy) - Thesis: "Selezioni continue ed equazioni differenziali multivoche", Advisors: Prof. A.Averna, Prof. Antonella Fiacca.

11/11/1983 - 01/01/1986 Collaborator for the didactics of the courses Analisi Matematica II"

02/01/1986 - 13/09/1991 Assistant of Mathematical Analysis for the course of Mathematical Analysis II, University of Perugia (Italy)

14/09/1991 - 31/10/1992 Research fellow, Department of Mathematics, University of Perugia, (Italy)

01/11/1992 - 31/10/1995 Associate Professor of Mathematical Analysis, University of Camerino (Italy)

01/11/1995 until today - Associate Professor of Mathematical Analysis, University of Perugia (Italy)

RESEARCH FIELDS

- Theory on the multimaps and variational problems.
- Functional and Ordinary Differential Equations and Inclusions
- Integro-differential Equations and Inclusions
- Integral Equations and Inclusions

- Fixed Point Theory in metric and topological spaces.
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PARTECIPATION to FINANCED RESEARCH PROJECTS

- - Membro dell'Unione Matematica Italiana e iscritta al gruppo G.N.A.M.P.A.
 - - Dal 1986 al 2005 : partecipazione ai progetti di ricerca nazionale 40 e 60 rispettivamente dal titolo: "Analisi Reale e Teoria della Misura" ed "Equazioni Differenziali".
 - - PRIN 2007 Equazioni Differenziali Ordinarie e Applicazioni, coordinatore nazionale Prof. Fabio Zanolin (Università di Udine).
 - - PRIN 2009 Equazioni Differenziali Ordinarie e Applicazioni, coordinatore nazionale Prof. Fabio Zanolin (Università di Udine).
 - - Projects Gnampa 2018-2019
 - - Project GNAMPA-2020 Processi evolutivi con memoria descrivibili tramite equazioni integro-differenziali" coord. Prof. Irene Benedetti.
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COORDINATOR of FINANCED RESEARCH PROJECTS

- - Project Gnampa 2018: "Equazioni differenziali, integrali ed integro-differenziali ordinarie nello studio dei fenomeni reali".
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EDITORIAL DUTIES

- Referee per riviste internazionali di matematica, tra cui: *Integral Equations and Operator Theory*, *Proceedings Mathematical Sciences*, *Fixed Point Theory*, *Differential Equations and Dynamical Systems*, *Journal Mathematical Analysis and Applications*, *Journal of Fixed Point Theory and Applications*, *Applied Mathematics Letters*, *Electronic Journal of Qualitative Theory of Differential Equations*, *Nonlinear Analysis Series A: Methods and Applications*, *Journal of Applied Functional Analysis*, *Bulletin of the Iranian Mathematical Society*, *The London Mathematical Society*, *Annales Universitatis Paedagogicae Cracoviensis - Studia Mathematica*.

OTHER INFORMATIONS

- Competition Commissioner for a post of university researcher at University Trieste.
- Exam Commissioner for the Scholarship Competition for enrolment in a degree in Mathematics for a.a. 2005-2004; 2004-2005; 2006-2007; 2007-2008; 2008-2009; 2009-2010; 2011-12; 2013-2014, 2014-15, 2015-2016, 2016-17 , 2017-18, 2018-19.
- Referee for a scientific project which provided for the peer review (december 2014).
- Member of the Unione Matematica Italiana
- Member of the Istituto Nazionale di Alta Matematica (INdAM), Gruppo Nazionale per l'Analisi Matematica, la Probabilit' e le loro Applicazioni (GNAMPA ex GNAFA), sezione 1. Equazioni Differenziali e Sistemi Dinamici
- Member of the "Albo dei Revisori" of MIUR
- Referee for a scientific project for the Ateneo di Modena e Reggio Emilia
- Supervisor of the PhD Thesis of Dott. Francesco Portigiani (defended: 12/2/2009, Universita' Modena and Reggio Emilia)
- Organizer of a session: Differential Inclusions and Controlled Systems del Joint Meeting of the Italian Mathematical Union, the Italian Society Industrial and Applied Mathematics and the Polish Mathematical Society - Wroclaw, Poland on September 17-20 2018.
- Project Manager Gnampa 2018: "Equazioni differenziali, integrali ed integro-differenziali ordinarie nello studio dei fenomeni reali".
- Supervisor of the PhD Thesis of Dott. Giulia Duricchi (Universita' Firenze)

PUBLICATIONS

ORCID: 0000-0003-3802-864

SUBMITTED OR UNDER PRINTING:

- 63 T. Cardinali, E. Continelli, Sturm-Liouville differential inclusions with set-valued reaction term depending on a parameter. Preprint
- 62 T. Cardinali, S. Matucci, P. Rubbioni, Controllability of nonlinear integral equations of Chandrasekhar type. Preprint
- 61 T. Cardinali, E. Continelli, Existence results for implicit nonlinear second order differential inclusions. Preprint

PUBLICATIONS

- 60 T. Cardinali, G. Duricchi, On nonlocal problems for semilinear second order differential inclusions without. *Electronic Journal on the qualitative theory of differential equations*, 2021, p. 1-32, ISSN: 1417-3875, doi: 10.14232/ejqtde.2021.1.66
- 59 I. Benedetti, T. Cardinali, R. Precup, Fixed point - Critical point hybrid theorems and application to systems with partial variational structure *Journal of Fixed Point Theory and its Applications*, ISSN: 1661-7738 (in stampa)
- 58 T. Cardinali - P. Rubbioni, Hereditary Evolution Processes Under Impulsive Effects, *Mediterranean Journal of Mathematics*, 2021, vol. 18, p. 1-26, ISSN: 1660-5446, doi:10.1007/s00009-021-01730-8
- 57 T. Cardinali - E. De Angelis, Non-autonomous second order differential inclusions with a stabilizing effect, *Results in Mathematics*, volume 76, Article number: 8 (2021) - ISSN: 1422-6383, doi: 10.1007/s00025-020-01305-1 - Open Access
- 56 T. Cardinali - P. Rubbioni, Existence theorems for generalized nonlinear quadratic integral equations via a new fixed point result, to appear on *Discr. Cont. Dynam. Sys. - Series S*, 2020. vol. 13, p. 1947-1955, ISSN: 1937-1179, doi:10.3934/dcdss.2020152
- 55 T. Cardinali - P. Rubbioni, The controllability of an impulsive integro-differential process with nonlocal feedback controls, *Applied Mathematics and Computation*, 2019, vol. 347, p. 29-39, ISSN: 0096-3003, doi:10.1016/j.amc.2018.10.083

- 54 I.Benedetti - T.Cardinali - G.Gabor - P.Rubbioni, Lyapunov pairs in semilinear differential problems with state-dependent impulses, *Set-Valued and Variational Analysis*, June 2019, Volume 27, Issue 2, pp 585604 - DOI 10.1007/s11228-018-0490-7 53
- 53 S. Gentili -T.Cardinali, An existence theorems for a non-autonomous second order nonlocal multivalued problem, *Stud. Univ. Babes-Bolyai Math.* 62 (2017), No.1, 101-117.52).
- 52 M. Biondini -T.Cardinali, Existence of solutions for a nonlinear integral equation via a hybrid fixed point theorem, *Results Math.* 71 (2017) 1259-1276.
- 51 T.Cardinali - R.Precup - P.Rubbioni, Two abstract approaches in vectorial fixed point theory, *Quaest. Math.* 41, No. 2, 173-188 (2018).
DOI: 10.2989/16073606.2017.1376002
- 50 S.Bungardi - T.Cardinali - P.Rubbioni, Nonlocal semilinear integro-differential inclusions via vectorial measures of noncompactness, *Appl. Anal.* 96, No. 15, 2526-2544 (2017)
DOI: 10.1080/00036811.2016.1227969
- 49 T.Cardinali - R.Precup - P.Rubbioni, Heterogeneous Vectorial Fixed Point Theorems, *Mediterr. J. Math.* 14, No. 2, Art. 83, 12 pp. (2017)
DOI: 10.1007/s00009-017-0888-8
- 48 T.Cardinali - D.O'Regan - P.Rubbioni, Mönch sets and fixed point theorems for multimaps in locally convex topological vector spaces, *Fixed Point Theory* 18, No. 1, 147-154 (2017)
DOI: 10.1016/j.jmaa.2016.01.066
- 47 I. Basoc - T.Cardinali, An hybrid nonlinear alternative theorem and some hybrid fixed point theorems for multimaps, *Journal of Fixed Point Theory and Applications* January (2015), vol. 15, ISSN:1661-7738, doi: 10.1007/s11784-015-0211-x
- 46 T.Cardinali - P.Rubbioni, Corrigendum and addendum to "On the existence of mild solutions of semilinear evolution differential inclusions" [*J. Math. Anal. Appl.* 308 (2) (2005) 620-635], *J. Math. Anal. Appl.* 438, No. 1, 514-517 (2016) DOI: 10.1016/j.jmaa.2016.01.066
- 45 T.Cardinali - R.Precup - P.Rubbioni, A unified existence theory for evolution equations and systems under nonlocal conditions, *J. Math. Anal. Appl.* 432, No. 2, 1039-1057 (2015)
DOI: 10.1016/j.jmaa.2015.07.019
- 44 T.Cardinali - P.Rubbioni, Aronszajn-Hukuhara type theorem for semilinear differential inclusions with nonlocal conditions, *Electron. J. Qual. Theory Differ. Equ.* 2015, No. 45, 1-12 (2015).
DOI: 10.14232/ejqtde.2015.1.45
- 43 T.Cardinali - N.Papageorgiou - P.Rubbioni, Bifurcation phenomena for nonlinear superdiffusive Neumann equations of logistic type, *Ann. Mat. Pura Appl.* 193, No. 1, 1-21 (2014).
DOI: 10.1007/s10231-012-0263-0

- 42 T.Cardinali, On the existence of ϵ - fixed points, *Cent. Eur. J. Math.*, 12(9) (2014), 1320-1329 DOI: 10.2478/s11533-014-0418-x.
- 41 T.Cardinali - P.Rubbioni, Multivalued fixed point theorems in terms of weak topology and measure of weak noncompactness, *J. Math. Anal. Appl.* 405, No. 2, 409-415 (2013).
- 40 T.Cardinali - P.Rubbioni, Countably condensing multimaps and fixed points, *Electron. J. Qual. Theory Differ. Equ.* 2012, No. 83, 1-9 (2012).
- 39 T.Cardinali - P.Rubbioni, Impulsive mild solutions for semilinear differential inclusions with nonlocal conditions in Banach spaces, *Nonlinear Anal. T.M.A.* 75, No. 2, 871-879 (2012).
- 38 T.Cardinali - F.Portigiani - P.Rubbioni, Nonlocal Cauchy problems and their controllability for semilinear differential inclusions with lower Scorza-Dragoni nonlinearities, *Czechoslovak Math. J.* 61 (136), No. 1, 225-245 (2011)
- 37 T.Cardinali, L.Santori, Boundary value problems for semilinear evolution inclusions, *Comment. Math. Univ. Carolin* 52, n.1, 115-125(2011).
- 36 T.Cardinali - P.Rubbioni, A generalization of the Caristi fixed point theorem in metric spaces, *Fixed Point Theory* 11, No. 1, 3-10 (2010).
- 35) T.Cardinali, S.Panfili, Global mild solutions for semilinear differential inclusions and applications to impulsive problems, *P.U.M.A.* 19, n.1, 1-19 (2008).
- 34 T.Cardinali - F.Portigiani - P.Rubbioni, Local mild solutions and impulsive mild solutions for semilinear Cauchy problems involving lower Scorza-Dragoni multifunctions, *Topol. Methods Nonlinear Anal.* 32, No. 2, 247-259 (2008)
- 33 T.Cardinali - P.Rubbioni, Impulsive semilinear differential inclusions: Topological structure of the solution set and solutions on non compact domains, *Nonlinear Anal. T.M.A.* 69, No. 1, 73-84 (2008)
- 32 T.Cardinali - P.Rubbioni, An extension to multifunctions of the Keeler-Meir's fixed point theorem, *Fixed Point Theory* 7, No. 1, 23-36 (2006).
- 31 T.Cardinali - P.Rubbioni, Mild solutions for impulsive semilinear evolution differential inclusions, *J. Appl. Funct. Anal.* 1, No. 3, 303-325 (2006).
- 30 T.Cardinali - P.Rubbioni, On the existence of mild solutions of semilinear evolution differential inclusions, *J. Math. Anal. Appl.* 308, No. 2, 620-635 (2005)
- 29 T.Cardinali, R.Notarpietro, Impulsive viable problems monitored by differential inclusions with almost lower semicontinuous multifunctions, *Pure Math. Appl.* 15 (2004), no.1, 29-43.
- 28 T.Cardinali, R.Servadei, Existence theorems for periodic semilinear impulsive problems (viable and not viable cases), *Pure Math. Appl.* 14 (2003), no.3, 161-171.

- 27 T. Cardinali, R. Servadei, On the existence of solutions for nonlinear impulsive periodic viable problems, *Central European Science Journal of Math.*, 2(4),2004,573-583.
- 26 T. Cardinali, N. Papageorgiou; R. Servadei, The Neumann problem for quasilinear differential equations”, *Archivum Mathematicum (BRNO)*,40 (2004), 321-333.
- 25 T. Cardinali, R. Servadei ”Periodic solutions of nonlinear impulsive differential inclusions with constraints”, *Proceedings of the American Math. Soc.* 132 (2004), 8, 2339-234.
- 24 T. Cardinali, Bestapproximations, fixed points and parametric projections, *Discussiones Mathematicae. Differential Inclusions, Control and Optimization Journal*, 22 (2002) , 243-260.
- 23 T. Cardinali, N. Papageorgiou, N. Yannakakis ”Landesman-Lazer type conditions for quasilinear periodic differential equations”, *Pure Math. Appl.* 12 (2001), no. 3, 255-264.
- 22 T. Cardinali, N. Papageorgiou, Periodic problems and problems with discontinuities for nonlinear parabolic equations, *Czechoslovak Math. J.* 50(125) (2000), no. 3, 467–497.
- 21 T. Cardinali, On the structure of the solution set of evolution inclusions with Frchet subdifferentials, *J. Appl. Math. Stochastic Anal.* 13 (2000), no. 1, 51–72.
- 20 T. Cardinali, N. Papageorgiou, Hammerstein integral inclusions in reflexive Banach spaces, *Proc. Amer. Math. Soc.* 127 (1999), no. 1, 95–103.
- 19 T. Cardinali, A. Fiacca, N. Papageorgiou, Extremal solutions for nonlinear parabolic problems with discontinuities, *Monatsh. Math.* 124 (1997), no. 2, 119–131.
- 18 T. Cardinali, A. Fiacca, N. Papageorgiou, On the solution set of nonlinear integrodifferential inclusions in \mathbb{R}^n , *Math. Japon.* 46 (1997), no. 1, 117–127.
- 17 T. Cardinali, F. Papalini, N. Papageorgiou, On nonconvex functional evolution inclusions involving m -dissipative operators, *Czechoslovak Math. J.* 47(122) (1997), no.1, 135–148.
- 16 T. Cardinali, F. Papalini, Existence theorems for nonlinear evolution inclusions, *Ann. Mat. Pura Appl.* (4) 173 (1997), 1–11.
- 15 T. Cardinali, G. Colombo F. Papalini, M. Tosques, On a class of evolution equations without convexity, *Nonlinear Anal.* 28 (1997), no. 2, 217–234.
- 14 T. Cardinali, N. Papageorgiou, Optimal control and admissible relaxation for subdifferential evolution inclusions, *Period. Math. Hungar.* 33 (1996), no. 1, 1–22.
- 13 T. Cardinali, A. Fiacca, N. Papageorgiou, An existence theorem for evolution inclusions involving opposite monotonicities, *Nonlinear World* 3 (1996), no. 2, 237-251.
- 12 T. Cardinali, S. Pieri, Existence and density results for retarded subdifferential evolution inclusions, *Discuss. Math. Differential Incl.* 16 (1996), no. 1, 53–74.
- 11 T. Cardinali ”Some characterizations of functions generating K -Schur concave sums and of K -concave set-valued functions, *Ann. Math. Sil. No.* 9 (1995), 17–28.

- 10 T. Cardinali, K. Nikodem, F. Papalini, Some results on stability and on characterization of K-convexity of set-valued functions, *Ann. Polon. Math.* 58 (1993), no. 2, 185–192.
- 9 T. Cardinali, F. Papalini, On the existence of fixed points for multifunctions with weakly closed graph, (Italian) *Riv. Mat. Univ. Parma* (4) 17 (1991), 59–67 (1992).
- 8 T. Cardinali, Relations between a multifunction and its boundary, (Italian) *Atti Sem. Mat. Fis. Univ. Modena* 39 (1991), no. 2, 635–647.
- 7 A. Averna, T. Cardinali, On the concepts of K-convexity [K-concavity] and K-convexity* [K-concavity*], (Italian) *Riv. Mat. Univ. Parma* (4) 16 (1990), no. 1-2, 311–330 (1991).
- 6 T. Cardinali, F. Papalini, Characterization of the lower semicontinuity of the boundary of a multifunction in normed spaces, (Italian) *Rend. Circ. Mat. Palermo* (2) 39 (1990), no. 2, 249–266.
- 5 T. Cardinali, F. Papalini, An extension of the concept of midpoint convexity for multifunctions, (Italian) *Riv. Mat. Univ. Parma* (4) 15, (1989), 119–131.
- 4 T. Cardinali, F. Papalini, The lower and upper semicontinuity of a multifunction, (Italian) *Riv. Mat. Univ. Parma* (4) 14 (1988), 193–214 (1989).
- 3 T. Cardinali "A result on the controllability of linear integral systems", (Italian) *Atti Sem. Mat. Fis. Univ. Modena* 37 (1989).
- 2 D. Averna, T. Cardinali, Sulla frontiera di una multifunzione a valori compatti e convessi, *Atti della Accad. di Scienze Lettere Arti di Palermo* (1986), 1-9.
- 1 T. Cardinali, A. Fiacca, Continuous selections and multivalued differential equations", (Italian) *Rend. Istit. Mat. Univ. Trieste* 17 (1985), no. 1-2, 87–99.

MAIN INTERNATIONAL CONFERENCES ATTENDED

- "Workshop on Nonlinear PDEs and Applications on the occasion of the retirement of Professor Maria Cesarina Salvatori" (Italia), 3-5 febbraio, 2020 (on invited, with talk: Problems involving second order semilinear differential inclusions).
- "Nonlinear differential models via topological methods, Recent advances on dynamical equations to celebrate Luisa Malaguti 60th birthday" - Ancona (Italia), 24-25 ottobre, 2019.
- "BiUrb - Recent advances in variational methods" - Urbino (Italia), 30-31 maggio 2019.
- "Joint meeting UMI-SIMAI-PTM" - Wroclaw (Polonia), 17-20 settembre 2018.

- *2017 Two-day meeting on PDEs*, University of Perugia, Italy, 23-24 February, 2017 (on invited, with talk).
- *International conference: James SERRIN: from His legacy to the new frontiers*, Perugia, 30/01-03/02/2017.
- *Una giornata sulle equazioni ellittiche nonlineari*, Perugia, 13 gennaio 2016.
- *International Workshop on Topological and Variational Methods for ODEs - Dedicated to Massimo Furi Professor Emeritus at the University of Florence*, Firenze, Dipartimento di Matematica e Informatica "U. Dini", June 3 - 4, 2014.
- *Workshop on Nonlinear Partial Differential Equations on the occasion of the sixtieth birthday of Patrizia Pucci*, 28/05/2012 al 01/06/2012
- *Ordinary Differential Equations and Applications*", Ancona, 15-17 settembre 2010
- *Joint International Meeting UMI-DMV*, Perugia, Giugno 18-22, 2007.
- *Problemi ai limiti per Equazioni Differenziali Ordinarie su intervalli non compatti*, Firenze, Aprile 27, 2007.
- *"I Convegno Dipartimentale"*, 27-28 Settembre 2002, Perugia (with talk).
- *"Symposium on Partial Differential Equations" in honor of Prof. Serrin*, Perugia, 24-28 Giugno 2002.
- *Analisi Reale e Teoria della Misura*, a Ischia, 15-19 Luglio 1996 (with talk)
- *Analisi Reale e Teoria della Misura*, Capri, Settembre 1990 (with talk).
- *"XV Congresso UMI"*, a Padova, 11-16 Settembre 1995 (with talk).
- *Analisi Reale e Teoria della Misura*, Capri, Settembre 1990 (with talk).
- *Analisi Reale e Teoria della Misura*, Capri, Settembre 1988 (with talk).
- *"XIII Congresso UMI"* a Torino, Settembre 1987 (with talk).
- *Analisi Reale e Teoria della Misura*, Capri, Settembre 1986 (with talk).

Abstracts in Atti di Convegno

- 2018 CARDINALI T., RUBBIONI P. "Differential inclusions with impulses in abstract spaces and applications Sessione n.36 "Differential Inclusions and Controlled Systems" del congresso "Joint meeting UMI-SIMAI-PTM" - Wroclaw (Polonia), 17-20 settembre 2018
- 2017 CARDINALI T., RUBBIONI P., *Semilinear integro-differential inclusions*, su invito nell'ambito del Convegno: Two-day meeting on PDEs, University of Perugia, Italy, 23-24 February, 2017.
- (2013) BENEDETTI I., CARDINALI T., MARTELOTTI A., RUBBIONI P. *Topological methods for Differential Inclusions - Presentazione del Nuovo Dipartimento di Matematica e Informatica dell'Università di Perugia*, Perugia, 27 Settembre 2013 Poster.
- (2013) CARDINALI T., RUBBIONI P. *Multivalued fixed point theorems in Banach spaces*, in: E. Feireisl, Prague (Head) A. Cianchi, Firenze Z. Dol, Brno T.Gallout, Marseille G. Karch, Wroclaw J. Mlek, Prague A. Mielke, Berlin P. Quittner, Bratislava G. Raugel, Paris E. Suli, Oxford E. Zuazua, Bilbao. Abstract: p. 47, Praga:Pavel Krejci, ISBN: 9788085823639, Prague, Czech Republic, August 26-30, 2013.
- (2014) CARDINALI T., PRECUP R., RUBBIONI P. *A unified approach to some classes of evolution equations and systems with nonlocal conditions*, in The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications p. 184, AIMS - American Institute of Mathematical Sciences, Madrid, July 07 - 11, 2014 Abstract.
- (2015) RUBBIONI P., BUNGARDI S., CARDINALI T. *Semilinear integro-differential inclusions via vectorial measures of noncompactness*, - International conference on nonlinear operators, differential equations and applications - ICNODEA 2015 - July 14 - Cluj-Napoca, Romania - Abstracts. p. 51-52.
- (2015) RUBBIONI P., CARDINALI T. *An application of topological methods in problems involving semilinear integro-differential inclusions*, - VII Symposium on Nonlinear Analysis, Torun, 14-18.IX.2015. p. 79-80, 14-18/09/2015 Abstract.