



**Europass  
Curriculum Vitae**

**Personal information**

First name / Surname **Francesca Bucci**  
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Università degli Studi di Firenze  
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Nationality Italian  
Gender Female

**Work experience**

Dates From December 23<sup>rd</sup>, 2011  
Occupation or position held Associate Professor in *Mathematical Analysis*  
Main activities and responsibilities Teaching and research on topics within the broad area of Mathematical Analysis.  
Research specifically focused on: *Analysis and Control of evolutionary Partial Differential Equations*  
Name and address of employer Università degli Studi di Firenze  
Type of business or sector Public Higher Education

Dates From November 1994 to December 2011  
Occupation or position held Researcher (Assistant Professor, permanent position) in *Mathematical Analysis*  
Main activities and responsibilities Teaching and research on topics within the broad area of Mathematical Analysis  
Name and address of employer Università degli Studi di Firenze, School of Engineering and Dipartimento di  
Matematica Applicata until (its closure) December 2010; since then within the  
Dipartimento di Sistemi e Informatica  
Type of business or sector Public Higher Education

Dates From November 1990 to November 1994  
Occupation or position held Researcher (Assistant Professor) in *Mathematical Analysis*  
Main activities and responsibilities Teaching and research on topics within the broad area of Mathematical Analysis  
Name and address of employer Università degli Studi di Modena, School of Mathematical Physical and Natural  
Sciences and Dipartimento di Matematica Pura e Applicata  
Type of business or sector Public Higher Education

**Parental leave**

Dates From November 18, 2003 to June 10, 2004 (second maternity leave)

Dates From April 11, 2000 to November 3, 2000 (first maternity leave)

### Education and training

Dates From November 1988 to November 1992

Title of qualification awarded Ph.D. In Mathematics

Principal subjects/occupational skills covered Thesis title: "Some results on control of Partial Differential Equations"  
Advisor: Giuseppe Da Prato (Scuola Normale Superiore)

Name and type of organisation providing education and training Università di Pisa, Italy

Dates From November 1987 to October 1988

Title of qualification awarded Fellowship of the Istituto Nazionale di Alta Matematica (IndAM)

Principal subjects/occupational skills covered Programme comprising various courses on different subjects of Mathematics (at Master's or graduate level), each followed by a final examination

Name and type of organisation providing education and training Università degli Studi di Firenze (on behalf of the INdAM)

Dates June 1987

Title of qualification awarded *Laurea* (MS degree) In Mathematics

Principal subjects/occupational skills covered Thesis title: "Soluzioni periodiche dell'equazione di Liénard"  
Advisor: Roberto Conti (Università degli Studi di Firenze)

Name and type of organisation providing education and training Università degli Studi di Firenze, Italy

### Fellowships, Awards

"Research in Pairs" Programme, Centro di Ricerca Matematica Ennio De Giorgi, Pisa (February 2008)

NATO-CNR Senior Fellowships Programme (1999), to support research at the Department of Mathematics of University of Virginia (April-June 2001)

Grant of the Scuola di Dottorato di Ricerca (PhD) in Mathematics of the Università di Pisa (1988-1990)

Fellowship of the Istituto Nazionale di Alta Matematica (Academic Year 1987/88)

1989 Premio di Laurea "Giovanni Sansone" of the Fondazione Pontello: received an award (along with a prize of one million of Italian Lire) for her Tesi di Laurea (Master thesis) on Ordinary Differential Equations

Scholarship of the C.N.R. (Italian National Research Council): Firenze, 1987

### Research interests

- Mathematical analysis of initial/boundary value problems for evolutionary Partial Differential Equations (PDE), particularly for systems of coupled hyperbolic/parabolic PDE, such as thermoelastic systems, models for acoustic-structure or fluid-structure interactions: well-posedness, interior/boundary regularity of the corresponding solutions;
- Optimal control problems with quadratic functionals for (linear) evolutionary PDE and composite systems of PDE, with boundary/interface control; differential and algebraic (operator) Riccati equations;
- Long-time behaviour of solutions to linear and nonlinear PDEs:
  - uniform stability (or stabilizability), decay rates – via energy methods and frequency domain techniques;
  - existence of global attractors, along with their structure (fractal dimension, regularity, etc.);
- The LQ-problem with non coercive cost functionals.

**Personal skills and competences**

Mother tongue(s) Italian

Other language(s)

Self-assessment

European level (\*)

**English**

**French**

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user
A2	Basic user	A2	Basic user	A2	Basic user				

**Scientific Activities, I.  
Visiting Appointments**

University of Nebraska-Lincoln, Department of Mathematics (March 2015, one week), invited by George Avalos

SISSA-ISAS, Trieste (May 2011, two weeks), within the trimester "Hyperbolic PDEs, Dispersive and Transport Equations"

Karl-Franzens-Universitaet Graz, Institut fuer Mathematik und Wissenschaftliches Rechnen (October 27-29, 2010), invited by Barbara Kaltenbacher; held a Guest Lecture within the Series "Excellent women in Mathematics"

Centre Émile Borel of the Institut Henri Poincaré (IHP), Université Paris VI, within the trimester *Contrôle d'Équations aux Dérivées Partielles et Applications* (November 2010), and within the trimester *Théorie du contrôle et applications* (March, 1998).

Centro di Ricerca Matematica Ennio De Giorgi of the Scuola Normale Superiore di Pisa (February 2008, two weeks circa): *Senior Visitor*, within the programme *Research in Pairs*, with Daniel Toundykov (Nebraska-Lincoln).

University of Virginia, Department of Mathematics (April-June 2001, two months): *Visiting Fellow*, as an awardee of a NATO-CNR Senior Fellowship.

**Scientific Activities, II.  
Invited talks/lectures**

F. Bucci has given numerous (nearly 60) invited talks/lectures in Italian and foreign scientific Institutions, mainly but not exclusively within International Conferences and Workshops/Symposia held in various countries including France, Spain, Germany, Austria, Poland, Romania, UK, Morocco, India, USA, Canada, besides Italy. (The ones pertaining to the last five years are listed below.)

- 2020** (forthcoming) Invited speaker at the International Workshop “*Analysis and Numerics of Design, Control and Inverse problems*”, Istituto Nazionale di Alta Matematica (IndAM), Roma, July 13-17, 2020
- (forthcoming) Invited speaker at the Workshop “*Mathematical models in applied sciences – in honour of Paola Loreti*”, Sapienza Università di Roma, March 26-27, 2020
- (forthcoming) Invited speaker at the Workshop of the GNAMPA 2019 Project “*Controllabilità di PDE in modelli fisici e scienze della vita*”, Roma, Feb. 27-28, 2020
- 2019** Invited speaker at the XXI Congresso dell'Unione Matematica Italiana, Special Session “*Problemi diretti e inversi per equazioni di evoluzione*” (organized by Giuseppe Floridia (Napoli Federico II) and Silvia Romanelli (Bari)), Pavia, September 2-7, 2019
- Invited speaker at the International Congress on Industrial and Applied Mathematics (ICIAM2019), Minisymposium “*Nonlinear acoustics: analytical and numerical aspects*” (organized by Barbara Kaltenbacher (Klagenfurt, AT), Marta Pellicer (Girona, ES), Mechthild Thalhammer (Innsbruck, AT)), Valencia, July 15-19, 2019
- 2018** Invited speaker in the Workshop “*Analysis, Control and Inverse Problems for PDEs*” (organized by Giuseppe Floridia (Napoli Federico II), Roberto Guglielmi (Gran Sasso Science Institute, L'Aquila), Cristina Pignotti (L'Aquila)), within the French-German-Italian Laboratoire International Associé on Applied Analysis (LIA-COPDESC), Napoli, Accademia Pontaniana, November 26-30, 2018
- Invited speaker in the Minisymposium “*Honoring the work of Igor Chueshov*” (organized by Irena Lasiecka (Univ. Memphis) and Justin Webster (Univ. Maryland, Baltimore County)), within the 28th IFIP TC7 Conference on System Modelling and Optimization (organized by Christian Clason, Arnd Roesch, Gerhard Starke, Irwin Yousept (UniDuisburg-Essen), and Christian Meyer (TU Dortmund)), Universitaet Duisburg-Essen, DE, July 23-2, 2018
- Invited Speaker at SIMAI 2018 (bi-annual congress of the Italian Society of Applied and Industrial Mathematics), Minisymposium “*Control and inverse problems for evolution equations*” (organized by Giuseppe Floridia (Napoli Federico II), Sapienza Università di Roma, July 2-6, 2018
- Invited Speaker in the Meeting “*New trends in control of evolution systems*” (organized by Roberto Guglielmi (GSSI, L'Aquila) and Piermarco Cannarsa (Roma Tor Vergata)), Gran Sasso Science Institute L'Aquila, April 20-21, 2018
- 2017** Invited Speaker in the Workshop “*Women in Control: New Trends in Infinite Dimensions*” (organized by Luz de Teresa (Universidad Nacional Autonoma de Mexico), Kirsten Morris (University of Waterloo, CA), Irena Lasiecka (University of Memphis, USA)), Banff International Research Station, Banff, Alberta (CA), July 16-21, 2017
- Invited Speaker in the Workshop “*Partial Differential Equations and Applications*” (organized by Angelo Favini (Università di Bologna), Genni Fragnelli (Università di Bari), Luca Lorenzi (Università di Parma)), Università di Bologna, May 22-26, 2017
- 2016** Invited Speaker in the 7th European Congress of Mathematics, Minisymposium “*Differential models in applications to nonlinear media: memory and biological materials*” (organized by Daniele Andreucci and Sandra Carillo (Sapienza Univ. di Roma)), Technische Universitaet Berlin, July 18-22, 2016
- Invited Speaker in the INdAM Meeting “*Optimal Control for Evolutionary PDEs and Related Topics*” (organized by Pierluigi Colli (Univ. di Pavia), Angelo Favini (Univ. di Bologna), Elisabetta Rocca (Univ. di Pavia), Jurgen Sprekels (Humboldt Univ., Berlin)), Palazzone di Cortona, June 20-24, 2016
- 2015** Invited Speaker in the Workshop on “*New advances in PDE's, Inverse Problems and Control Theory*” (organized by Angelo Favini (Univ. di Bologna), Genni Fragnelli (Univ. di Bari), Luca Lorenzi (Univ. di Parma)), Università degli Studi di Parma, July 6-10, 2015

Invited Speaker in the Minisymposium "*Wellposedness, control, and observability theories for partial differential equations*" (organized by George Avalos (Univ. Nebraska-Lincoln), Scott Hansen (Iowa State Univ.), Daniel Toundykov (Univ. of Nebraska-Lincoln)), within the 27<sup>th</sup> IFIP TC7 Conference 2015 on System Modeling and Optimization, Université Nice-Sophia Antipolis, June 29–July 3, 2015

Invited Speaker in the GDRE ConEDP-GSSI Workshop on "*Control of Partial Differential Equations*" (organized by Fatiha Alabau-Boussouira (Univ. de Lorraine), Piermarco Cannarsa (Univ. di Roma Tor Vergata), Pierangelo Marcati (Univ. dell'Aquila)), Gran Sasso Science Institute (GSSI), L'Aquila, April 22-24, 2015

Invited Speaker in the Workshop "*Control Theory and Related Topics*" (organized by Fulvia Confortola, Monica Conti, Elsa Maria Marchini (PoliMI)), Politecnico di Milano, Dipartimento di Matematica, April 12-13, 2015

Invited Speaker in the Northeastern Spring Sectional Meeting of the American Mathematical Society, Special Session on "*Nonlinear Partial Differential Equations in Sciences and Engineering*" (organized by Lorena Bociu (North Carolina State Univ.), Ciprian Gal (Florida International Univ.), Daniel Toundykov (Univ. of Nebraska)), Georgetown University, Washington DC, March 7-8, 2015

## Professional activities. Service to UniFI

### Libraries

Member of the *Comitato Scientifico della Biblioteca di Scienze* (representative for the Dipartimento di Matematica e Informatica, since Nov. 2018)

### Degree Programme in Civil and Environmental Engineering

Member of the *Comitato per la Didattica*, CdS Ingegneria Civile Edile Ambientale (from Dec. 2012 to Dec. 2019)

Coordinator of the (working group) Gruppo di lavoro "Matematica/Probabilità e Statistica", CdS Ingegneria Civile Edile Ambientale (since May 2012, during the transition from three distinct (BS) degree programmes to a unique one, and during few subsequent years)

### Comitato Unico di Garanzia per le Pari Opportunità, etc. (Equal opportunities)

Proofreader/reviewer for the *Bilancio di genere 2018* of the Università degli Studi di Firenze

Invited participant at: *La vita emotiva dell'accademia. Presentation/reading of "Feeling Academic in the Neoliberal University"*, edited by Yvette Taylor and Kinneret Lahad, Palgrave-Macmillan, Basingstoke 2018; Università degli Studi di Firenze, March 20, 2019

Invited speaker at: *Generi e accademia a partire da noi*, Università degli Studi di Firenze, February 28, 2019 (Title of the talk: "*È questa un'accademia per matematiche? (giovani o meno)*")

## Scientific activities, III. Organization of meetings

F. Bucci has been an organizer of Conferences/Workshops/Symposia held in Italian and foreign scientific Institutions such as the Ecole Nationale Supérieure de Mines de Paris, Sophia Antipolis (France), the Imperial College London (UK), the Technische Universität Berlin (Germany), the Alpen-Adria Universität Klagenfurt (Austria), the Universidad Autónoma de Madrid and the Universidad del País Vasco (Spain), the IMPA (Brazil), the Politecnico di Torino (Italy), besides the Università di Firenze; see below.

- 2020** (*forthcoming*) Co-organizer (with Barbara Kaltenbacher (Alpen-Adria Univ. Klagenfurt, AT)) of the Minisymposium "*Analysis, Control and Inverse problems for Partial Differential Equations*", within the 8th European Congress of Mathematics (8ECM), Portorož, Slovenia, July 5-11, 2020
- 2019** Promoting and co-organizing (with Andrea Colesanti (Firenze), Giovanni Bellettini (Siena), Elisabetta Chiodaroli, Emanuele Paolini and Nicola Visciglia (Pisa)) the "*Incontri di Analisi Matematica tra Firenze Pisa e Siena*" (*MathAnalysis@UniFIPIPI*); the first one-day Workshop held at the Dipartimento di Matematica e Informatica of the Università degli Studi di Firenze on May 17, 2019; the second one held at the Dipartimento di Matematica of the Univ. di Pisa on Nov. 22, 2019
- 2018** Co-organizer (with Francesca Ceragioli, Giuseppe Calafiore, Fabio Fagnani, Luisa Mazzi (Politecnico di Torino), Giacomo Como (Politecnico di Torino and Lunds Universitet), Chiara Ravazzi (Consiglio Nazionale delle Ricerche, IEIIT)) of "*Paths in Mathematical Control theory*", a Workshop on the occasion of Andrea Bacciotti's and Luciano Pandolfi's 70th birthdays, Politecnico di Torino, Feb. 26-27, 2018.
- 2017** Co-organizer (as a member of the Local Organizing Committee) of the International Conference "*New Directions in Nonautonomous Dynamical Systems*", Università degli Studi di Firenze, Jan. 31-Feb. 3, 2017;  
Scientific Organizing Committee: Roberta Fabbri (Firenze), Matteo Franca (Università Politecnica delle Marche), Carmen Nunez (Valladolid, ES), Maria Patrizia Pera (Firenze), Genevieve Raugel (Paris-Sud, FR), Yingfei Yi (Alberta, CA), Luca Zampogni (Perugia)
- 2016** Co-organizer (with Alexandre N. de Carvalho (Universidade de Sao Paulo) and Elisabetta Rocca (Pavia)) of the Special Session "*Control and Asymptotics of Nonlinear PDE Dynamics*" (S19), within the First Joint Meeting Brazil-Italy in Mathematics, IMPA Rio de Janeiro, Aug. 29-Sept. 2, 2016
- 2014** Co-organizer (with Lorena Bociu (North Carolina State University) and George Avalos (University of Nebraska-Lincoln)) of the Special Session "*Analysis and control of nonlinear partial differential equation evolution systems*", within the 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Universidad Autonoma de Madrid, July 7-11, 2014  
Co-organizer (with Manuel Gonzalez Burgos and Enrique Fernandez-Cara (Universidad de Sevilla)) of the Special Session "*PDE methods and challenges in control and inverse problems*", within the First Joint International Meeting RSME-SCM-SEMA-SIMAI-UMI, Universidad del Pais Vasco, Bilbao, June 30-July 4, 2014
- 2013** Co-organizer (with Daniel Toundykov, University of Nebraska-Lincoln) of the Minisymposium "*Mathematical Modeling of Physical Phenomena*", within the 26th IFIP TC7 Conference 2013 on System Modeling and Optimization, Alpen-Adria Universitaet Klagenfurt, AU, Sept. 9-13, 2013  
Co-organizer (with George Avalos (Nebraska-Lincoln)) of the Minisymposium "*Novel directions in control of evolutionary PDE problems*", within the 26th IFIP TC7 Conference 2013 on System Modeling and Optimization, Alpen-Adria Universitaet Klagenfurt, AU, Sept. 9-13, 2013
- 2011** Co-organizer (with Daniel Toundykov (Nebraska-Lincoln)) of the Minisymposia "*Analysis and control of composite PDE systems: new challenges and methods, I-V*", within the 25<sup>th</sup> IFIP TC7 Conference 2011 on System Modeling and Optimization, Technische Universitaet Berlin, Sept. 12-16, 2011
- 2009** Co-organizer (with Irena Lasiecka (University of Virginia)) of the Special Session "*Analysis and optimisation of nonlinear evolutionary systems*", within the 7th ISAAC Congress, Imperial College London, July 13-18, 2009
- 2005** Co-organizer (with George Avalos (Nebraska-Lincoln)) of the Invited Session "*Analysis and Optimization of Systems modelled by PDEs*", within the 22nd IFIP TC7 Conference on System Modeling and Optimization, Politecnico di Torino, July 18-22, 2005

2003 Co-organizer (with George Avalos (Nebraska-Lincoln) and Catherine Lebedzik (Pole Universitaire Leonard de Vinci, Paris -- then, now WSU Michigan)) of the Minisymposium "Analysis and Control of systems governed by PDEs", within the 21st IFIP TC7 Conference on System Modeling and Optimization, Ecole Nationale Supérieure de Mines de Paris, Sophia Antipolis, FR, July 21-25, 2003

**Scientific Activities, IV.  
Editorial duties**

Reviewer for the following mathematical journals: Journal of Mathematical Analysis and Applications, Journal of Differential Equations, Communications on Pure and Applied Analysis, Applied Mathematics and Optimization, SIAM Journal on Control and Optimization, Journal of Mathematical Fluid Mechanics, Discrete and Continuous Dynamical Systems, Nonlinear Analysis, Mathematical Methods in the Applied Sciences, Nonlinear Differential Equations and Applications (NoDea), Applicable Analysis, Z. Angew. Math. Phys., Control & Cybernetics, The Quarterly Journal of Mechanics & Applied Mathematics, IEEE Transactions on Automatic Control

**Scientific Activities, V.  
Publications**

**Peer-reviewed publications**

F. Bucci, L. Pandolfi, On the regularity of solutions to the Moore-Gibson-Thompson equation: a perspective via wave equations with memory, *J. Evol. Equ.* (2019), 31 pp. <https://doi.org/10.1007/s00028-019-00549-x>

F. Bucci and I. Lasiecka, Feedback control of the acoustic pressure in ultrasonic wave propagation, *Optimization* **68** (2019), no. 10, 1811-1854 (published online: 19 Aug 2018; DOI: [10.1080/02331934.2018.1504051](https://doi.org/10.1080/02331934.2018.1504051))

G. Avalos, F. Bucci, Rational rates of uniform decay for strong solutions to a fluid-structure PDE system, *J. Differential Equations* **258** (2015), no. 12, 4398-4423.

G. Avalos, F. Bucci, Exponential decay properties of a mathematical model for a certain fluid-structure interaction, in: *New Prospects in Direct, Inverse and Control Problems for evolution equations*, Favini A., Fragnelli G., Mininni R. (Eds.), *Springer INdAM Series Vol. 10*, 45-73, Springer Verlag, 2014, XII, 471 p. 37 illus.

P. Acquistapace, F. Bucci, I. Lasiecka, A theory of the infinite horizon LQ-problem for composite systems of PDEs with boundary control, *SIAM J. Math. Anal.* **45** (2013), no. 3, 1825-1870.

F. Bucci, I. Lasiecka, Regularity of boundary traces for a fluid-solid interaction model, *Discrete Contin. Dyn. Syst. Ser. S* **4** (2011), no. 3, 505-521.

F. Bucci, D. Toundykov, Finite dimensional attractor for a composite system of wave/plate equations with localised damping, *Nonlinearity* **23** (2010), no. 9, 2271-2306.

F. Bucci, I. Lasiecka, Optimal boundary control with critical penalization for a PDE model of fluid-solid interactions, *Calc. Var. Partial Differential Equations* **37** (2010), no. 1-2, 217-235.

F. Bucci, Control-theoretic properties of structural acoustic models with thermal effects, II. Trace regularity results, *Appl. Math.* **35** (2008), no. 3, 305-321.

F. Bucci, I. Chueshov, Long-time dynamics of a coupled system of nonlinear wave and thermoelastic plate equations, *Discrete Contin. Dyn. Syst. Series A* **22** (2008), no. 3, 557-586.

F. Bucci, Control-theoretic properties of structural acoustic models with thermal effects, I. Singular estimates, *J. Evol. Equ.* **7** (2007), no. 3, 387-414.

F. Bucci, I. Chueshov, I. Lasiecka, Global attractor for a composite system of nonlinear wave and plate equations, *Commun. Pure Appl. Anal.* **6** (2007), no. 1, 113-140.

- P. Acquistapace, F. Bucci, I. Lasiecka, Optimal boundary control and Riccati theory for abstract dynamics motivated by hybrid systems of PDEs, *Adv. Differential Equations* **10** (2005), no. 12, 1389-1436.
- P. Acquistapace, F. Bucci, I. Lasiecka, A trace regularity result for thermoelastic equations with application to optimal boundary control, *J. Math. Anal. Appl.* **310** (2005), no. 1, 262-277.
- F. Bucci, I. Lasiecka, Singular estimates and Riccati theory for thermoelastic plate models with boundary thermal control, *Dyn. Contin. Discrete Impuls. Syst., Ser. A: Math. Anal.* **11** (2004), no. 4, 545-568.
- F. Bucci, Uniform decay rates of solutions to a system of coupled PDEs with nonlinear internal dissipation, *Differential Integral Equations* **16** (2003), no. 7, 865-896.
- F. Bucci, Uniform stability of a coupled system of hyperbolic/parabolic PDEs with internal dissipation, in: "Analysis and Optimization of Differential Systems" (V. Barbu, I. Lasiecka, D. Tiba and C. Varsan Eds.), Kluwer Academic Publishers, Boston/Dordrecht/London, 2003, 57-68.
- F. Bucci, I. Lasiecka, Exponential decay rates for structural acoustic model with an overdamping on the interface and boundary layer dissipation, *Appl. Anal.* **81** (2002), no. 4, 977-999.
- F. Bucci, I. Lasiecka, R. Triggiani, Singular estimates and uniform stability of coupled systems of hyperbolic/parabolic PDEs, *Abstr. Appl. Anal.* **7** (2002), no. 4, 169-236.
- F. Bucci and L. Pandolfi, The regulator problem with indefinite quadratic cost for boundary control systems: the finite horizon case, *Systems Control Lett.* **39** (2000), n. 2, 79-86.
- F. Bucci, The non-standard LQR problem for boundary control systems, in: "Control Theory and Related Topics" (A. Bacciotti, B. Piccoli and G. Stefani Eds.), *Rend. Sem. Mat. Univ. e Politec. Torino* **56** (1998), no. 4, 105-114.
- F. Bucci, Stability of holomorphic semigroup systems under nonlinear boundary perturbations, in: "Optimal Control of Partial Differential Equations", (K.-H. Hoffman, G. Leugering and F. Tröltzsch Eds.), *International Series of Numerical Mathematics* **133** (1999), Birkhauser Verlag Basel, 63-76.
- F. Bucci, Frequency domain stability of nonlinear feedback systems with unbounded input operator, *Dyn. Contin. Discrete Impuls. Syst., Ser. A: Math. Anal.* **7** (2000), no. 3, 351-368.
- F. Bucci, Absolute stability of feedback systems in Hilbert spaces, in: *Optimal Control: Theory, Algorithms, and Applications* (W.W. Hager e P.M. Pardalos Eds.), Kluwer Academic Publishers, Boston, (1998), 24-39.
- F. Bucci and L. Pandolfi, The value function of the singular quadratic regulator problem with distributed control action, *SIAM J. Control Optimiz.* **36** (1998), no. 1, 115-136.
- F. Bucci and L. Pandolfi, Finite horizon regulator problem: the non-standard case, in: *Modelling and Optimization of Distributed Parameter Systems* (K. Malanowski, Z. Nahorski and M. Peszynska Eds.), Chapman and Hall Publ., New York, 131-138.
- F. Bucci, A remark on regularization of the wave equation with boundary input, in: "Partial Differential Equation Methods in Control and Shape Analysis" (G. Da Prato and J.P. Zolesio Eds.), *Lect. Notes Pure Appl. Math.* **188** (1997), Marcel Dekker Inc., New York, 53-62.
- F. Bucci, Regularization and approximation of the wave equation with boundary input: an abstract approach, *Dynamic Syst. Appl.* **3** (1994), no. 4, 453-464.
- F. Bucci, A hyperbolic problem with boundary control: a solution through parabolic regularization, in: "Control of Partial Differential Equations" (G. Da Prato e L. Tubaro Eds.), *Lect. Notes Pure Appl. Math.* **165** (1994), Marcel Dekker, Inc., New York, 23-35.
- F. Bucci, Singular perturbation for controlled wave equations, *J. Math. Syst. Estim. Control* **6** (1996), n. 2, 135-149 (Summary published in Vol. 4 (1994), no. 3).
- F. Bucci, A Dirichlet boundary control problem for the strongly damped wave equation, *SIAM J. Control Optim.* **30** (1992), no. 5, 1092-1100.



F. Bucci and G. Villari, Phase portrait of the system  $x'=y, y'=F(x,y)$ , *Boll. UMI* **4-B** (1990), no. 7, 265-274.

F. Bucci, On the existence of periodic solutions for the generalized Lienard equation, *Boll. UMI* **3-B** (1989), no. 7, 155-168.

#### Chapters of books edited

F. Bucci and I. Lasiecka (Communicators), Selected papers, in: *Modern Aspects of the Theory of Partial Differential Equations*, Ruzhansky M., Wirth J. (Eds.), Operator Theory: Advances and Applications, Vol. 216, Birkhäuser, Basel, 2011, VIII, 368 p. ISBN: 978-3-0348-0068-6

F. Bucci and I. Lasiecka (Subeditors), Chapter "Control and Optimisation of Nonlinear Evolutionary Systems", in: *Progress in Analysis and its Applications*, Proceedings of the 7th International ISAAC Congress *Imperial College London, UK, 13-18 July 2009*, Ruzhansky M., Wirth J. (Eds.), World Scientific Publishing Co., 2010. 668pp. ISBN: 978-981-4313-16-2, 978-981-4464-70-3

#### e-Prints/Preprints (subject to endorsement)

F. Bucci, A boundary control problem with infinite horizon for the strongly damped wave equation, Research Report, Dipartimento di Matematica of the Università di Pisa, Quaderni di Analisi Matematica e Probabilità, quaderno no. 2.43.(530), October 1990.

#### Ongoing

(with Paolo Acquistapace) *The LQ problem for systems of coupled hyperbolic-parabolic PDEs with boundary control: theoretical results, uniqueness for Riccati equations, model-specific analysis*

(with Matthias Eller) *On the initial-boundary value problem for the Moore-Gibson-Thompson equation*

#### Teaching Activity

(briefly) Starting in the Academic Year 1994/95, F. Bucci has been responsible of academic courses in *Mathematical Analysis* within various degree programmes such as Mathematics (MS degree), Physics, Civil and Environmental Engineering (both BS and MS degrees), Computer Engineering, etc.). The said courses include: *Analisi Matematica I, Analisi Matematica II, Complementi di Analisi Matematica* (with an Introduction to *Partial Differential Equations*), *Analisi Superiore* (topics: *Mathematical Control Theory and Semigroup Theory*)