

Filippo Dell'Oro

Curriculum Vitae

Updated: March 2020

Personal Information

Born in Lecco (Italy) on June 16, 1986

Current position Assistant Professor in Mathematical Analysis

Affiliation Politecnico di Milano - Dipartimento di Matematica

Work address Via Bonardi 9, 20133 Milano, Italy

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Education

2011–2013 PhD in Mathematical Models and Methods in Engineering
Politecnico di Milano, Milano, Italy
Thesis defended on Feb 20, 2014
Final grade: cum laude
Advisor: Prof. Vittorino Pata

2008–2010 Master of Science in Mathematics
Università degli Studi di Milano, Milano, Italy
Final grade: 110/110 cum laude

Aug 2009 Summer School of Mathematics SMI
Università degli Studi di Perugia, Perugia, Italy
Courses: functional analysis (final grade A)
differential equations in mathematical physics (final grade A+)

2005–2008 Bachelor of Science in Mathematics
Università degli Studi di Milano, Milano, Italy
Final grade: 110/110

Academic Positions

Since Nov 29, 2019 Assistant Professor (RTDb)
Politecnico di Milano, Milano, Italy

Jan 2016–Nov 2019 Assistant Professor (RTDa)
Politecnico di Milano, Milano, Italy

Oct 2014–Dec 2015 Postdoctoral Fellow
Institute of Mathematics of the Academy of Sciences of the Czech Republic,
Prague, Czech Republic

Jan 2014–Sep 2014 Research Fellow
Università degli Studi di Brescia, Brescia, Italy

Professional Qualifications

Nov 28, 2017 National Scientific Habilitation to Associate Professor
Compartment 01/A3 - Mathematical Analysis, Probability and Mathematical
Statistics (valid till Nov 28, 2023)

Professional Affiliations

Unione Matematica Italiana
Gruppo Nazionale per l'Analisi Matematica, la Probabilità e le loro Applicazioni

Grants and Projects

- Dec 2017 "Finanziamento annuale individuale delle attività base di ricerca" awarded by ANVUR
- 2017 Coordinator of the GNAMPA project "Comportamento asintotico di sistemi dissipativi non locali" financed by INdAM
- 2012–2013 Member of the GNAMPA project "Analisi di modelli di tipo Navier-Stokes" financed by INdAM
- Jul 2012 "International mobility contribution" awarded by Politecnico di Milano
- 2011–2013 "PhD scholarship" awarded by Politecnico di Milano

Research Interests

Well posedness and asymptotic analysis of linear and nonlinear evolution equations, stability of operator semigroups and related topics

Publications

31. F. Dell'Oro, I. Lasiecka and V. Pata, *A note on the Moore-Gibson-Thompson equation with memory of type II*, *J. Evol. Equ.* (in press)
30. F. Dell'Oro and V. Pata, *Second order linear evolution equations with general dissipation*, *Appl. Math. Optim.* (in press)
29. F. Dell'Oro and Y. Mammeri, *Benjamin-Bona-Mahony equations with memory and Rayleigh friction*, *Appl. Math. Optim.* (in press)
28. F. Dell'Oro, O. Goubet, Y. Mammeri and V. Pata, *Global attractors for the Benjamin-Bona-Mahony equation with memory*, *Indiana Univ. Math. J.* (in press)
27. M. Conti, F. Dell'Oro and V. Pata, *Exponential decay of a first order linear Volterra equation*, *Mathematics in Engineering* **2(3)** (2020), 459–471
26. M. Conti, F. Dell'Oro and V. Pata, *Nonclassical diffusion with memory lacking instantaneous damping*, *Commun. Pure Appl. Anal.* **19** (2020), 2035–2050
25. F. Dell'Oro, O. Goubet, Y. Mammeri and V. Pata, *A semidiscrete scheme for evolution equations with memory*, *Discrete Contin. Dyn. Syst.* **39** (2019), 5637–5658
24. F. Dell'Oro, *On the spectrum of the equation of linear viscoelasticity*, *Math. Nachr.* **291** (2018), 2388–2396
23. F. Dell'Oro and V. Pata, *On a fourth-order equation of Moore-Gibson-Thompson type*, *Milan J. Math.* **85** (2017), 215–234
22. F. Dell'Oro and V. Pata, *On the Moore-Gibson-Thompson equation and its relation to linear viscoelasticity*, *Appl. Math. Optim.* **76** (2017), 641–655

21. V. Danese and F. Dell’Oro, *The lack of exponential stability for a class of second-order systems with memory*, Proc. Roy. Soc. Edinburgh Sect. A **147** (2017), 683–702
20. F. Dell’Oro, E. Laeng and V. Pata, *A quantitative Riemann-Lebesgue lemma with application to equations with memory*, Proc. Amer. Math. Soc. **145** (2017), 2909–2915
19. F. Dell’Oro, C. Giorgi and V. Pata, *Steady states of elastically-coupled extensible double-beam systems*, AIMS Mathematics **2** (2017), 28–69
18. V. Danese, F. Dell’Oro and V. Pata, *Stability analysis of abstract systems of Timoshenko type*, J. Evol. Equ. **16** (2016), 587–615
17. F. Dell’Oro, I. Lasiecka and V. Pata, *The Moore-Gibson-Thompson equation with memory in the critical case*, J. Differential Equations **261** (2016), 4188–4222
16. F. Dell’Oro and C. Giorgi, *Global attractors for the coupled suspension bridge system with temperature*, Math. Methods Appl. Sci. **39** (2016), 864–875
15. F. Dell’Oro and E. Feireisl, *On the energy inequality for weak solutions to the Navier-Stokes equations of compressible fluids on unbounded domains*, Nonlinear Anal. **128** (2015), 136–148
14. F. Dell’Oro, Y. Mammeri and V. Pata, *The Benjamin-Bona-Mahony equation with dissipative memory*, NoDEA Nonlinear Differential Equations Appl. **22** (2015), 899–910
13. F. Dell’Oro, C. Giorgi and V. Pata, *Asymptotic behavior of coupled linear systems modeling suspension bridges*, Z. Angew. Math. Phys. **66** (2015), 1095–1108
12. F. Dell’Oro, *Asymptotic stability of thermoelastic systems of Bresse type*, J. Differential Equations **258** (2015), 3902–3927
11. F. Dell’Oro and V. Pata, *Lack of exponential stability in Timoshenko systems with flat memory kernels*, Appl. Math. Optim. **71** (2015), 79–93
10. F. Dell’Oro and J.E. Muñoz Rivera, *Stabilization of ternary mixtures with frictional dissipation*, Asymptot. Anal. **89** (2014), 235–262
9. F. Dell’Oro and V. Pata, *On the stability of Timoshenko systems with Gurtin-Pipkin thermal law*, J. Differential Equations **257** (2014), 523–548
8. M. Conti, F. Dell’Oro and V. Pata, *Timoshenko systems with fading memory*, Dyn. Partial Differ. Equ. **10** (2013), 367–377
7. F. Dell’Oro, J.E. Muñoz Rivera and V. Pata, *Stability properties of an abstract system with applications to linear thermoelastic plates*, J. Evol. Equ. **13** (2013), 777–794
6. M. Conti, F. Dell’Oro and A. Miranville, *Asymptotic behavior of a generalization of the Caginalp phase-field system*, Asymptot. Anal. **81** (2013), 297–314
5. M. Coti Zelati, F. Dell’Oro and V. Pata, *Energy decay of type III linear thermoelastic plates with memory*, J. Math. Anal. Appl. **401** (2013), 357–366
4. F. Dell’Oro, *Global attractors for strongly damped wave equations with subcritical-critical nonlinearities*, Commun. Pure Appl. Anal. **12** (2013), 1015–1027
3. F. Dell’Oro and V. Pata, *Memory relaxation of type III thermoelastic extensible beams and Berger plates*, Evol. Equ. Control Theory **1** (2012), 251–270
2. F. Dell’Oro and V. Pata, *Strongly damped wave equations with critical nonlinearities*, Nonlinear Anal. **75** (2012), 5723–5735

1. F. Dell’Oro and V. Pata, *Long-term analysis of strongly damped nonlinear wave equations*, *Nonlinearity* **24** (2011), 3413–3435

Visiting Appointments

- May 14–24, 2017 Université de Picardie Jules Verne, Amiens, France
Feb 27–Mar 15, 2015 Politecnico di Milano, Milano, Italy
Nov 22–29, 2013 University of Surrey, Guildford, United Kingdom
Dec 1–8, 2012 Université de Picardie Jules Verne, Amiens, France
Jun 30–Sep 29, 2012 Laboratório Nacional de Computação Científica, Petrópolis, Rio de Janeiro, Brazil

Talks at Conferences

- Sep 4, 2019 XXI Congresso dell’Unione Matematica Italiana, Pavia, Italy
Title: *Dissipative linear evolution equations of second order*
- May 15, 2019 7th AMARENA Days - Amiens-Milano-Poitiers Reunion on Numerical and Mathematical Analysis, Amiens, France
Title: *Asymptotic behavior of Benjamin-Bona-Mahony equations with dissipative memory*
- Feb 21, 2019 Decima Giornata di Studio Università di Pavia - Politecnico di Milano, Equazioni Differenziali e Calcolo delle Variazioni, Milano, Italy
Title: *Second order linear evolution equations with general dissipation*
- Oct 1, 2018 Semigroups of Operators: Theory and Applications, Kazimierz Dolny, Poland
Title: *Decay properties of dissipative systems of linear thermoelasticity and viscoelasticity*
- Jul 24, 2018 IFIP TC 7 Conference on System Modelling and Optimization, Essen, Germany
Title: *On the Moore-Gibson-Thompson equation and its memory relaxation*
- Jul 7, 2018 The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Taipei, Taiwan
Title: *A semidiscrete numerical method for the Gurtin-Pipkin equation*
- Jul 6, 2018 The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Taipei, Taiwan
Title: *A quantitative Riemann-Lebesgue lemma with application to equations with memory*
- May 4, 2018 6th AMARENA Days - Amiens-Milano-Poitiers Reunion on Numerical and Mathematical Analysis, Amiens, France
Title: *Semidiscrete schemes for evolution equations with memory*
- May 16, 2017 5th AMARENA Days - Amiens-Milano-Poitiers Reunion on Numerical and Mathematical Analysis, Amiens, France
Title: *Longterm dynamics of Moore-Gibson-Thompson equations*
- Sep 14, 2016 XIII SIMAI Biannual Congress, Milano, Italy
Title: *Elastically-coupled double-beam systems: analysis of the steady states*
- Sep 13, 2016 XIII SIMAI Biannual Congress, Milano, Italy
Title: *The Moore-Gibson-Thompson equation with memory in the critical case*
- Jul 25, 2016 14th International Conference on Integral Methods in Science and Engineering, Padova, Italy
Title: *Analysis of the steady states of elastically-coupled nonlinear double-beam systems*
- Jul 14, 2015 Infinite-Dimensional Dynamics, Dissipative Systems, and Attractors, Nizhny Novgorod, Russia
Title: *Stability analysis of abstract systems of Timoshenko type*

- Jul 1, 2015 CIME Course "Mathematical Thermodynamics of Complex Fluids", Cetraro, Italy
Title: *On the energy inequality for weak solutions to the Navier-Stokes equations of compressible fluids on unbounded domains*
- Jul 10, 2014 The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Madrid, Spain
Title: *Asymptotic behavior of a generalization of the Caginalp phase-field system*
- Sep 10, 2013 XII Workshop on Partial Differential Equations, Petrópolis, Brazil
Title: *Asymptotic behavior of coupled linear systems modeling suspension bridges*
- Aug 28, 2012 XI Workshop on Partial Differential Equations, Rio de Janeiro, Brazil
Title: *Global attractors for strongly damped nonlinear wave equations*
- Jul 1, 2012 The 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, Florida, USA
Title: *Long-term analysis of strongly damped nonlinear wave equations*
- Apr 17, 2012 Mathematical Models and Analytical Problems in Special Materials, Roma, Italy
Title: *Type III thermoelastic beams and plates with memory*

Talks at Universities or Research Centers

- May 22, 2017 Université de Picardie Jules Verne, Amiens, France
Title: *On the stability of abstract systems arising from thermoelasticity and viscoelasticity*
- Mar 29, 2017 Politecnico di Milano, Milano, Italy
Title: *Asymptotic analysis of linear Moore-Gibson-Thompson equations*
- Nov 3, 2015 Institute of Mathematics of the Czech Academy of Sciences, Prague, Czech Republic
Title: *Energy inequality in differential form for weak solutions to the compressible Navier-Stokes equations on unbounded domains*
- Mar 6, 2015 Politecnico di Milano, Milano, Italy
Title: *Exponential stability for thermoelastic Bresse systems with nonclassical heat conduction*
- Nov 4, 2014 Institute of Mathematics of the Czech Academy of Sciences, Prague, Czech Republic
Title: *Asymptotic analysis of thermoelastic systems with Gurtin-Pipkin thermal law*
- Nov 29, 2013 University of Surrey, Guildford, United Kingdom
Title: *On the stability of Timoshenko systems with Gurtin-Pipkin thermal law*
- Dec 6, 2012 Université de Picardie Jules Verne, Amiens, France
Title: *Asymptotic behavior of nonlinear wave equations with strong damping*
- Nov 16, 2012 Politecnico di Milano, Milano, Italy
Title: *Exponential and polynomial stability of linear semigroups and applications*
- Jan 13, 2012 Politecnico di Milano, Milano, Italy
Title: *Gronwall type lemmas and applications*

Teaching Experience

- Fall 2019 Mathematical Analysis 2
Politecnico di Milano, MSc in Building Engineering/Architecture
- Fall 2019 Real and Functional Analysis (recitation)
Politecnico di Milano, MSc in Mathematical Engineering

- Spring 2019 Mathematical Analysis 2
Politecnico di Milano, BSc in Management and Production Engineering
- Spring 2019 Decay Properties of Linear Evolution Equations
Politecnico di Milano, PhD Program in Mathematical Models and Methods in Engineering
- Fall 2018 Mathematical Analysis 2
Politecnico di Milano, MSc in Building Engineering/Architecture
- Fall 2018 Mathematical Analysis 1 (recitation)
Politecnico di Milano, BSc in Electrical, Automation, Telecommunications, Electronic and Computing Systems Engineering
- Fall 2017 Mathematical Analysis 2
Politecnico di Milano, MSc in Building Engineering/Architecture
- Fall 2017 Mathematical Analysis 1 (recitation)
Politecnico di Milano, BSc in Electrical, Automation, Telecommunications, Electronic and Computing Systems Engineering
- Fall 2016 Mathematical Analysis 2
Politecnico di Milano, MSc in Building Engineering/Architecture
- Fall 2016 Mathematical Analysis 1 (recitation)
Politecnico di Milano, BSc in Electrical, Automation, Telecommunications, Electronic and Computing Systems Engineering
- Spring 2016 Mathematical Analysis 2
Politecnico di Milano, BSc in Management and Production Engineering
- Fall 2013 Mathematical Analysis 1 and Geometry (recitation)
Politecnico di Milano, BSc in Industrial Production Engineering
- Fall 2012 Real and Functional Analysis (recitation)
Politecnico di Milano, MSc in Mathematical Engineering
- Fall 2012 Mathematical Analysis 1 and Geometry (recitation)
Politecnico di Milano, BSc in Industrial Production Engineering
- Fall 2011 Mathematical Analysis 1 and Geometry (recitation)
Politecnico di Milano, BSc in Industrial Production Engineering

Professional Service

- Aug 2016 Co-organizer of the special session "New developments in nonlinear evolutionary PDEs", 1st Joint Meeting Brazil-Italy in Mathematics, Rio de Janeiro, Brazil
- Since 2013 Referee for several international journals including:
Acta Applicandae Mathematicae, Applicable Analysis, Applied Mathematics and Optimization, Asymptotic Analysis, Communications on Pure and Applied Analysis, Discrete and Continuous Dynamical Systems Series A, Evolution Equations and Control Theory, Journal of Differential Equations, Journal of Evolution Equations, Journal of Mathematical Analysis and Applications, Mathematical Methods in the Applied Sciences, Mathematical Models and Methods in Applied Sciences, Mathematische Nachrichten, Milan Journal of Mathematics, Nonlinear Analysis, Proceedings of the Royal Society of Edinburgh: Section A, Transactions of the American Mathematical Society, Zeitschrift für angewandte Mathematik und Physik
- Since 2013 Reviewer for "Mathematical Reviews"

Other Schools and Conferences Attended

- Apr 10–16, 2016 School "Modern applications of operator theory", Bedlewo, Poland
- May 22–29, 2015 The 14th school "Mathematical theory in fluid mechanics", Kacov, Czech Republic
- Nov 23–29, 2014 Oberwolfach Seminar "Analysis of compressible Navier-Stokes equations and related topics", Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany
- Jun 17–22, 2013 International school "Recent advances in partial differential equations and applications", Università degli Studi di Milano, Milano, Italy
- Apr 8–12, 2013 The Navier-Stokes Equations in Venice - A meeting on the mathematical analysis of the Navier-Stokes Equations, Venezia, Italy
- Feb 28–Mar 1, 2013 Mathematics in a complex world - On the occasion of 150th Year of Politecnico di Milano, Milano, Italy
- Jun 20–23, 2011 International conference "Interfaces and discontinuities in solids, liquids and crystals", Gargnano, Italy