

MONICA CONTI
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Born in Lecco (Italy) on February 1969

Citizenship: Italian

Affiliation: Dipartimento di Matematica, Politecnico di Milano

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Education

- 1993 Degree in Mathematics summa cum laude, Università degli Studi di Milano
- 1998 PhD in Mathematics, Università degli Studi di Milano

Academic Positions

- 1999 Research grant on Calculus of Variations, Università degli Studi di Milano-Bicocca
- 1999 Researcher of Mathematical Analysis MAT/05, Politecnico di Milano
- 2010 Associate professor of Mathematical Analysis MAT/05, Politecnico di Milano
- 2017 Full professor of Mathematical Analysis MAT/05, Politecnico di Milano

SCIENTIFIC ACTIVITY

Research Interests

- Elliptic PDEs: existence and multiplicity of solution; sub-upper solutions, variational methods in nonlinear analysis; critical point theory
- Strongly competing species systems and optimal partition problems
- Dissipative dynamical systems and Evolution equations
- Theory of attractors for infinite-dimensional dynamical systems
- Systems with memory
- Well-posedness and long-term behavior of dynamical systems generated by PDEs from Mathematical Physics
- Attractors for processes on time-dependent spaces
- Mathematical models for aging viscoelastic materials and tumor growth
- Cahn-Hilliard and Caginalp phase-field systems
- Diffuse interface systems in Fluid Dynamics

Publications

Co-author of 63 papers published in international peer-reviewed journals. MathSciNet (May 2019): Cited 859 times by 510 authors, 23 co-authors, H-Index 16

10 Selected papers

- M. Conti, V. Danese, C. Giorgi and V. Pata, *A model of viscoelasticity with time-dependent memory kernels*, American Journal of Mathematics, 240 (2018) 349-389
- M. Conti, T.F. Ma, E.M. Marchini, P.N.Seminario Huertas, *Asymptotics of viscoelastic materials with nonlinear density and memory effects*, J. Differential Eq. 264 (2018) 4235-4259

- V.V. Chepyzhov, M. Conti, V. Pata, *Averaging of equations of viscoelasticity with singularly oscillating external forces*, Journal de Mathématiques Pures et Appliquées 108 (2017) 8421-868
- M. Conti, S. Gatti, A. Miranville, *Multi-Component Cahn-Hilliard systems with dynamic boundary conditions*, Nonlin. Anal. RWA, 25 (2015) 137-166
- S. Bosia, M. Conti, M. Grasselli, *On the Cahn-Hilliard-Brinkman system*, Commun. Math. Sci. 13 (2015) 1541-1567
- M. Conti, V. Pata, R. Temam, *Attractors for processes on time-dependent spaces. Applications to wave equations*, J. Differential Eq. 255 (2013), 1254-1277
- M. Conti, V. Pata, *On the regularity of global attractors*, Discr. Cont. Dynam. Syst. 25 (2009), 1209-1217
- M. Conti, V. Pata, M. Squassina, *Singular limit of differential systems with memory*, Indiana Univ. Math. J. 55 (2006), 169-216
- M. Conti, V. Pata, *Weakly dissipative semilinear equations of viscoelasticity*, Commun. on Pure and Appl. Anal. 4 (2005), 705-720
- M. Conti, S. Terracini, G. Verzini, *Asymptotic estimates for the spatial segregation of competitive systems*, Advances in Mathematics 195, (2005), 2, 524-560
- M. Conti, L. Merizzi, S. Terracini, *Radial solutions of superlinear equations on R^n . Part I: a global variational approach*, Arch. Rational Mech. Anal. 153 (2000), 291-316

Recent Invited Talk

- AMARENA2019 Meeting on numerical and mathematical analysis, Amiens, May 15-16, 2019
- MACH2019 Mathematical modeling in Cultural heritage, Roma, March 25-29, 2019
- SIMAI2018 - Complexity reduction: mathematical modelling and control – Roma, October 2018
- MASCOT2018 15th Meeting on applied scientific computing and tools – Roma, July 2018
- Partial Differential Equations and Applications, Università di Bologna, May 22-26, 2017
- ICCDEA2017 - International Conference on Differential & Difference Equations and Applications - Amadora, Lisbon, June 5-9, 2017
- SIMAI2016 Minisymposium Modeling dissipative phenomena, Milano, September 13, 2016
- GNAMPA Congress, Montecatini, June 23-26, 2016
- One-day workshop on deterministic and stochastic differential equations, Sevilla, November 5, 2015
- New advances in PDEs, Inverse Problems and Control Theory, Parma, July 6-10, 2015
- COPDE2015, Conference on Partial Differential Equations, Munich, March 2015
- 10th AIMS International Conference: Dynamical Systems, Differential Equations and Applications, Madrid 2014

Conference Organization

- Decima Giornata di Studio Università di Pavia - Politecnico di Milano – Equazioni Differenziali e Calcolo delle Variazioni. Milano, February 21, 2019
- SIMAI2016 Minisymposium M20 Damage and viscoelasticity. Milano, September 2016
- SIMAI2016 Minisymposium M21 Diffuse interface models. Milano, September 2016
- Control Theory and related topics. Milano, April 2015
- Mathematics in a Complex World - On the occasion of 150th Year of Politecnico di Milano. Milano, February 28 - March 1, 2013
- Trends in Mathematical Analysis. Milano, March 1-3, 2012

- Ottava Giornata di Studio Università di Pavia - Politecnico di Milano – Equazioni Differenziali e Calcolo delle Variazioni. Milano, December 15, 2010
- Trends in nonlinear analysis and PDEs - On the occasion of Louis Caffarelli's 60th Birthday. Milano, February 5-7, 2009

Referee Activities

- International Reviewer for FONDECYT (National Fund for Scientific & Technological Development), Chile
- Member of the Editorial Board of AIMS Mathematics
- Referee for international journals. Among them: *Nonlinear Analysis: Real World Applications*, *Discrete and Continuous Dynamical Systems*, *Dynamics of Partial Differential Equations*, *Journal of Differential Equations*, *Nonlinear Analysis*, *Mathematical Methods and Models in Applied Analysis*, *Asymptotic Analysis*, *Applicable Analysis*, *Mathematical Models and Methods in Applied Sciences*, *Milan Journal of Mathematics*, *Proceeding of the Edinburgh Math. Society*, *Communications on pure and applied analysis*, *ZAMP*, *Physica D*

Scientific Grants

- GNAMPA Project 2017 Comportamento asintotico di sistemi dissipativi non locali, principal investigator: F. dell'Oro (Milano)
- GNAMPA Project 2016 Regolarità e comportamento asintotico di soluzioni di equazioni paraboliche, principal investigator: S. Polidoro (Modena)
- Principal Investigator of GNAMPA Project 2015 Proprietà asintotiche di sistemi differenziali con memoria degenere
- GNAMPA Project 2012 Analisi di modelli di tipo Navier-Stokes, principal investigator: S. Bosia (Milano)
- Principal Investigator of GNAMPA Project 2010 Sistemi differenziali con memoria
- GALILEO Project 2011-2012: Analyse et simulation de modèles asymptotiques en hydrodynamique et en géophysique, Politecnico di Milano - Amiens. Principal Italian investigator: M. Grasselli
- INRIA Project Italy-France 2008
- 2008-2010 MIUR-PRIN Project Transizioni di fase, isteresi e scale multiple. Principal investigator: A. Visintin
- 2006-2008 MIUR-PRIN Project Metodi variazionali e topologici per sistemi dinamici non lineari. Principal investigator: A. Ambrosetti
- 2000-2006 MIUR-PRIN Project Problemi al contorno per equazioni e sistemi differenziali: metodi e applicazioni. Principal investigator: A. Ambrosetti

PhD Activity

- Member of the Board of the PhD School Mathematical Models and Methods in Engineering (MMMI), Politecnico di Milano
- Chair of the PhD Seminar on Differential Equations and Calculus of Variations (2010-2014), Politecnico di Milano

- External advisor of Brice Doumb Bangola, PhD. student at the Poitiers University- Laboratoire de Mathématiques et Applications: Etude de modes de champs de phase de type Caginalp (2013)
- Responsible of courses on Infinite Dimensional Dynamical Systems for the PhD School MMMI (2011,2017,2018)

TEACHING ACTIVITY

Undergraduate Courses

I exerted my teaching activities mainly at Politecnico di Milano. In the CdL Ingegneria Edile-Architettura I taught Analisi Matematica 2 from 2001 to 2015; since 2016 I'm responsible of the course Analisi Matematica 1 con Elementi di Algebra Lineare. In the CdL Ingegneria Edile I taught Analisi Matematica 2 from 2013 to 2015. In the CdL Ingegneria Matematica I taught Analisi Matematica B (Calculus 2) from 2004 to 2008; I was lecturer of Functional Analysis from 2004 to 2009 and Ordinary Differential Equations in 2004-2005.

Textbooks

- Co-author of Analisi Matematica. Dal calcolo all'analisi (Mathematical Analysis 1: from calculus to analysis) Apogeo Publisher (2006), 514 pages with exercises and solutions. With D.Ferrario, G.Verzini, S.Terracini
- Co-author of Analisi Matematica. Con elementi di geometria e calcolo vettoriale (Mathematical Analysis 2. With elements of geometry and vector calculus) Apogeo Publisher (2008), 657 pages with exercises and solutions. With V. Barutello, D.Ferrario, G.Verzini, S.Terracini

MOOC: Co-author of the Mooc *Equazioni differenziali lineari del secondo ordine*, Politecnico di Milano: www.pok.polimi.it/courses/course-v1:Polimi+EDO101+2019_M2/about