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## Curriculum vitae

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*Elena Bonetti*

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## 1 Curriculum Vitae

### Personal informations

- Name: Elena Bonetti
- Date and place of birth: April 12th 1974, in Asola (MN) - Italy
- Research unique identifiers: ORCID ID 0000-0002-8035-3257
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### Education

- January 2002: PhD in Mathematics, University of Milan, advisor prof. Pierluigi Colli, thesis “Global solvability of a dissipative Frémond model for shape memory alloys”
- Other Degrees: Degree of “Scuola Avanzata di Formazione Integrata”, IUSS (Scuola Superiore di Pavia), as a student of Collegio Ghislieri in 2001, Master graduation (cum laude) in Mathematics (University of Pavia) in 1997, advisor prof. Gianni Gilardi.

### Current and previous positions

- March 2016 - .... Associate Professor in the Department of Mathematics, University of Milan, Italy.
- April 2011- February 2016 Associate Professor in the Department of Mathematics, University of Pavia, Italy. *Habilitation to the full professor position in Dec 2013.*
- January 2001 - March 2011 Assistant Professor in the Department of Mathematics, University of Pavia, Italy

### Fellowships

Since 2004 Research Fellow in Istituto di Matematica Applicata e Tecnologie Informatiche “Enrico Magenes” of CNR, Pavia. Visiting Professor in Ecole Normale Supérieure de Cachan (for a month, 2008). Funding of European project TMR “Phase transitions in crystalline solids” for collaborations with the University of Besançon and the LCPC in Paris (in 2001 and 2002-2003) and from EGIDE for visits in LCPC (Paris) (in 2004 and 2005).

### **Membership of scientific societies**

Member of Italian (Unione Matematica Italiana, Società Matematica Italiana Applicata all'Industria, Istituto di Alta Matematica) and international scientific society (The International Society for the Interaction of Mechanics and Mathematics)

### **Supervision of graduate students and postdoctoral fellows**

Professor in the PhD Program "Computational Mechanics and Advanced Materials" of the University of Pavia and IUSS, with a specific role for daily supervision for PhD students concerning analytical modeling of shape memory alloys. Advisor for three master degrees thesis in the Faculty of Engineering of the University of Pavia. Professor in the PhD Program in Mathematics of the University of Milan.

### **Teaching activities**

From 1998 teaching activity in courses of calculus, mathematical analysis and modeling for the Engineering Faculty of the University of Pavia and in the Faculty of Mathematics, Chemistry and Physics in the University of Milan

### **Organization of scientific meetings**

Member of the organizing and scientific committee of the following workshops and conferences : "Dissipative models in phase transitions" (Cortona, 2004), "SMARTeR - Shape Memory Alloys to Regulate Transient Responses in civil engineering" (Pavia, 2008), "PV09: Phase Variations 2009" (Pavia, 2009), "Mathematical modeling of materials and processes" (Mantova, 2010), "INDI2011 - Interfaces and discontinuities in Solids, Liquids and Crystals" (Gargnano, 2011), "ADMAT2012: PDE for multiphase advanced materials" (Cortona, 2012), Special Session "Variational energy and entropy approaches in non-smooth thermo-mechanics" (10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Madrid, 2014), "Special Materials in Complex Systems – SMaCS 2015" (Roma, 2015)

### **Institutional Responsibilities**

Member of the directorial committee of the Engineering Faculty, University of Pavia (2012-2015)

### **Commissions of Trust**

Referee for international reviews (with an average frequency of 5 reports par year): Asymptotic Analysis; Control and Cybernetics; Discrete and Continuous Dynamical Systems. Series B and S; M2AS Mathematical Methods in the Applied Sciences; M3AS Mathematical Models and Methods in Applied Sciences; Journal of Differential Equations; Journal of Elasticity; Journal of Mathematical Analysis and Applications; M2AN Mathematical Modeling and Numerical Analysis; SIAM Journal on Mathematical Analysis; Annals of Solid and Structural Mechanics; Journal of Analysis and its Applications - ZAA.

Editor of a special issue dedicated to Michel Frémond on the occasion of his 70th birthday in Discrete Contin. Dyn. Syst. Ser. S 6 (2103).

### **Major collaborations**

I have developed joint research projects, leading to several publications, with the following Universities and Institutions: Laboratoire Central des Ponts et Chaussées and Ecole Nationale Supérieure des Techniques Avancées (Paris); WIAS-Weierstrass Institute for Applied Analysis and Stochastics (Berlin); Laboratoire de Mécanique et d'Acoustique - CNRS (Marseille); Univ. di Brescia, Univ. Pavia, Univ. Bologna, Univ. Tor Vergata; Ecole Nationale des Ponts et Chaussées (Paris), Laboratoire de Mécanique Civil (Montpellier), Laboratoire de Mécanique Appliquée (Besançon), Basic Chemicals and Plastic Research Center Versalis, ENI.

### **International research experiences**

- Laboratoire Central des Ponts et Chaussées (Paris): long visits in 2001 (3 months), 2002-2003 (6 months), 2004 (1 month), short visits in 2004, 2005 (both of 2 weeks)

- Visiting professor at Centre de Mathématiques et de Leurs Applications, CNRS et Ecole Normale Supérieure de Cachan in 2008 (1 month)
- Ecole Nationale Supérieure des Techniques Avancées - ENSTA (Paris): short visit in 2011 (2 weeks)
- WIAS (Berlin): short visits in 2011, 2014 (both of 1 week)
- LMA (Marseille): short visit in 2015 (1 week) and in 2016 (1 week)

**Career breaks**

For maternity: (1) May 20th 2005 - October 20th 2005, (2) May 24th 2009 - October 24th 2009

## 2 Early achievements track-record

**Publications (see the list below)**

- A total of **58** papers in international ISI journals and **3** preprints submitted. I am the single author of **7** of them.
- **6** publications in proceedings of international congress

**Research topics (including the number of related publications)**

Analytical investigation of dissipative initial and boundary value problems for PDE, arising from engineering applications in thermomechanics and materials science, like

- shape memory materials
- phase transitions and phase separations phenomena
- hydrogen storage
- damage and fatigue (of elastic and (thermo)viscoelastic materials)
- contact with adhesion and friction
- collisions and fractures
- continuum mechanics problems (including plasticity)

My research focuses on: derivation and investigation of thermodynamically consistent models after introducing suitable variational settings; proof of existence, uniqueness, continuous dependence on data, regularity for the corresponding solutions; long-time behavior; asymptotic analysis for some physical parameter tending to zero. I have been involved in multi-disciplinary tasks including mathematics, mechanics, and engineering aspects.

**Invited presentations**

- **54** contributed talks at international conferences (**43** as invited speaker)
- **11** invited seminars at other Department (worldwide)

**Prizes and awards**

- Best “curriculum studiorum” for graduated students in the Faculty of Sciences in the University of Pavia in 1997
- Prize “Berzolari” for the best theses in Mathematics of the University of Pavia in the period 1993-1997.

## References

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