May 25, 2017

ULISSE STEFANELLI, CURRICULUM VITAE

CONTACT

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Group website: http://www.mat.univie.ac.at/~stefanelli/group

Researcher ID: F-8139-2014

Born September 19,1975. Italian citizenship.

RESEARCH INTERESTS

Main research fields: Partial Differential Equations, Calculus of Variations, Continuum Thermomechanics.

Main keywords: Nonlinear PDEs and systems, Evolution equations, Variational techniques, Γ-convergence and relaxation, Approximation and discretization, Mathematical modeling of materials, Phase transformations in solids, Shape-memory alloys, Magnetic materials. Atomistic models, Crystallization.

POSITIONS

2013 - today *Professor*, University of Vienna, Chair of Applied Mathematics and Modeling.

2010 - today *Researcher Director*, IMATI - CNR (on leave from Aug. 2013).

2002 - 2010 *Senior Researcher*, IMATI - CNR.

2011 - 2012 *Friedrich Wilhelm Bessel Research* awardee (research fellow), WIAS Berlin.

2003 - 2013 *Professor* (temporary), University of Pavia.

2001 - 2002 *Researcher* (permanent), Istituto di Analisi Numerica - CNR.

EDUCATION

Ph.D. in *Mathematics and Scientific Computing* (advisor P. Colli), University of Pavia, 2003.

SAFI Advanced School, Institute for Advanced Study - IUSS, Pavia, 2002.

Laurea in Matematica, University of Pavia, 1998.

HONORS, AWARDS

- *Premio Vinti*, Unione Matematica Italiana, 2015.
- *Wolfgang Pauli Institute*, member.
- Secretary of the *Int. Society for the Interaction of Mechanics and Mathematics* (2013-2016).
- *Richard von Mises Prize*, GAMM, 2010.
- *Friedrich Wilhelm Bessel Research Award*, Alexander von Humboldt Foundation, 2009.
- *CNR 2005* prize, awarded 2009.
- *ERC Starting Grant*, 2008.
- *SIMAI 2004* prize (best PhD thesis in Applied Math in Italy).
- *SAFI - IUSS* prizes in 1999, 2000, and 2001.
- *Cinquini* prize 1998 (best diploma thesis in Math in Pavia).

INVITED LECTURES AND SEMINARS

Plenary lectures

- XX Congresso della Unione Matematica Italiana, Siena, September 2015 (semi).
- *GAMM 81st Annual Scientific Conference*, Karlsruhe, March 2010.
  Richard von Mises Prize lecture.
- *Free Boundary Problems: Theory and Applications*, Stockholm, June 2008.
- XVII Congresso della Unione Matematica Italiana, Milan, September 2003 (semi).

Invited Lectures, last five years

- CNR-INDAM Workshop on *Innovative Mathematical Models and Methods for Industrial Applications*, minicourse, Rome, May 2017.
- *Viscoelasticity and Dissipative Dynamics of Rods and Membranes*, Okinawa Institute of Science and Technology, Okinawa, March 2017.
- Analysis of Boundary Value Problems for PDEs, Pavia, February 2017.
- Miniworkshop *Mathematics of magnetoelastic materials*, Oberwolfach, November 2016.
- ERC Workshop *Modeling materials and fluids using variational methods*, WIAS, Berlin, February 2016.
- Miniworkshop *Variational and PDE problems in Applied Mathematics*, Pisa, February 2016.
- WPI Workshop *Multiscale transport of particles*, WPI Vienna, September 2015.
- Vienna PDE Day, TU Vienna, June 2015.
- Workshop *Trends in Non-Linear Analysis 2015*, SISSA, Trieste, July 2015.
- *Variational Methods for Evolution*, Oberwolfach, December 2014.
- Thematic program *Minimal energy point sets, lattices and designs*, Schrödinger Institute, Vienna, October 2014.

- Workshop *Entropy Methods, PDEs, Functional Inequalities, and Applications*, Banff International Research Station, Banff July 2014.

- Special session on *Nonlinear Evolution PDEs and Interfaces in Applied Sciences* in the *10th AIMS International Conference on Dynamical Systems and Differential Equations*, Madrid, July 2014.

- Special session on *Variational energy and entropy approaches in non-smooth thermo-mechanics* in the *10th AIMS International Conference on Dynamical Systems and Differential Equations*, Madrid, July 2014.

- International workshops on *Multi-Rate Processes and Hysteresis* and *Hysteresis and Slow-Fast Systems*, Berlin, April 2014.

- GSSI International Workshop *From Atomistic to Continuum Models in Materials Science*. L'Aquila, April 2014.

- *PIRE Workshop on Evolution Problems for Material Defects*, Trieste, October 2013.

- *PDEs for multiphase advanced materials*, Cortona, September 2012.

- Minisymposium on *New problems arising in mathematical modeling of smart and biological materials* in *SIMAI 2012*, Torino, June 2012.

Seminars, last five years

- *A variational invitation to carbon geometries*, Mathematisches Kolloquim, Würzburg, 2016.

- *Carbon geometries as minimizers*, Institute of Science and Technology Austria, Klosterneuburg, 2016.

- *Carbon geometries as energy minimizers*, Analysis Seminar, Warwick, 2015.

- *Geometry optimization in carbon* , Colloquium, TU Graz, 2015.

- *Mathematics of crystallization*, ViCOM Colloquium, Vienna, 2014.

- *Finite to infinitesimal plasticity*, Joint Analysis Seminar Augsburg-München, 2014.

- *Crystallization in a nutshell*, Università di Pavia, 2013.

- *Regular tilings via crystallization*, WIAS Berlin, Langenbach seminar, 2013.

- *Semilinear waves as convex minimization*, Kōbe University, 2012.

- *Crystallization in carbon nanostructures*, Symposium of the SFB 910, TU Berlin, 2012.

- *The De Giorgi conjecture on elliptic regularization*, WIAS Berlin, Langenbach seminar, 2012.

Research experiences

2011 WIAS Berlin (5 months). Host: A. Mielke.
Friedrich Wilhelm Bessel Research Awardee, von Humboldt Foundation.

2006 ETH and Universität Zürich (5 months). Hosts: R. Hiptmair and C. DeLellis.
CNR - Short-Term Mobility and *CNR - FNSRS* fellow.

2004 WIAS Berlin (1 month). Hosts: J. Sprekels and P. Krejčí.
CNR - Short-Term Mobility fellow.

2003 Laboratoire de Mécanique et Génie Civil, Montpellier (2 months).
Host: G. Geymonat.

2003 Institute for Computational Engineering and Science, Austin (1 month). Host: L.A. Caffarelli.
J.T. Oden Faculty Research fellow.

2001 University of Texas at Austin (8 months). Host: L.A. Caffarelli.
CNR - outbound fellow.

2000 WIAS Berlin (1 month). Hosts: J. Sprekels and P. Krejčí.
Granted by WIAS.

Visits

2016 University of Würzburg (Math. Koll.)

2015 AV ČR Prague (invited by M. Kružík), TU Graz (invited by P. Grabner), WIAS Berlin (invited by A. Mielke), Warwick (invited by F. Rindler).

2014 Universität Augsburg (invited by B. Schmidt), AV ČR Prague (invited by M. Kružic), WIAS Berlin (invited by A. Mielke).

2013 WIAS Berlin (invited by A. Mielke).

2012 WIAS Berlin (invited by A. Mielke). Kōbe University (invited by G. Akagi).

2011 MPI Leipzig (invited by F. Otto). Charles University, Technical University, AV ČR Prague. Humboldt Universität zu Berlin (invited by C. Carstensen).

2010 University of Trento (invited by A. Visintin).

2009 WIAS Berlin (invited by A. Mielke). University of Bologna (invited by M. Fabrizio), University of Roma *La Sapienza* (invited by L. Giacomelli).

2008 University of Trento (invited by A. Visintin), WIAS and Humboldt Universität zu Berlin (invited by A. Mielke).

2007 Universität Bonn (invited by F. Otto).

2006 University of Texas at Austin (invited by L.A. Caffarelli),

2005 CMAF - Centro de matemática e aplicações fundamentais, Lisbon (invited N. Chemetov and M.D.P. Monteiro Marques), WIAS Berlin (invited by A. Mielke).

2004 University of Texas at Austin (invited by L.A. Caffarelli).

2003 University of Texas at Austin (invited by L.A. Caffarelli). University of Trento (invited by
A. Visintin). Technische Universität, München (invited by M. Brokate).

2002 University of Texas at Austin (invited by L.A. Caffarelli).
University of Trento (invited by A. Visintin).

GRANTS

Speaker

- FWF Special Research Program F65 *Taming Complexity in Partial Differential Systems*, 2017-2021. 4M€.

Principal Investigator, Project-Part Leader

- FWF Special Research Program F65, Project-Part *Multiphysics in solids*, 2017-2021. 320K€.
- FWF Special Research Program F65, Project-Part *Coordination*, 2017-2021. 343K€
- FWF Doctoral School *Dissipation and dispersion in partial differential equations*, 2017-2021 (Speaker: A. Jüngel)
- WTZ-OeAD Cooperation Project with the Czech Republic *Thermomechanics of solids: modeling, analysis, and simulations*, 2016-2017. 7K€.
- WWTF Mathematics and.. *Variational modeling of carbon nanostructures*, 2015-2018. 540K€.
- FWF Stand-Alone Grant *Global variational methods for nonlinear evolution*, 2015-2018. 331K€.
- CNR - Japan Society for the Promotion of Science (JSPS) Grant *Innovative variational methods for evolution equations*, 2014-2015. 16K€.
- ERC Starting Grant *BioSMA: Mathematics for Shape Memory Technologies in Biomechanics*, 2008-2013. 700K€.
- CNR - Academy of Sciences of the Czech Republic (AV ČR) Grant *SMART-MATH: The Mathematics of Smart Materials: thermodynamics, analysis and applications*, 2010-2012. 10K€.
- CNR - Japan Society for the Promotion of Science (JSPS) Grant *Innovative variational methods for evolution PDEs*, 2012-2013. 16K€.

Co-principal investigator

- FWF-GAČR Joint International Project *Variational structures in the thermomechanics of solids*, 2016-2018. 109K€. Co-PI Martin Kružík, Prague.
- CENTRAL project *Analysis and Numerics of Partial Differential Equations* (Humboldt Universität zu Berlin, Charles University in Prague, University of Vienna). 2015-2018.
- FWF-Lise-Meitner fellowship: Edoardo Mainini, *Crystal ordering and dynamics of interacting particles*, 2015-2016.

Local coordinator

- CNR research program CNR.PC.P03.008 *Analisi e sintesi di dati eterogenei per monitoraggio e conservazione di Beni Culturali.*
- CNR research program CNR.SP.P01.027 *Modellazione, analisi e simulazione per dispositivi a memoria di forma.*
- EUROCORES - European Science Foundation S3T *SMARTeR: Shape Memory Alloys to Regulate Transient Responses in civil engineering*, 2007-2009 (local coordinator at IMATI)

PROFESSIONAL SERVICE

Advisory

- *Weierstraß-Institute for Applied Analysis and Stochastics*, Berlin, member of the Scientific Advisory Board (2015-2019)

Editorial boards

- *Transactions of Mathematics and ist Applications*, associate editor (2016-present).
- *Advances in Mathematical Sciences and Applications*, associate editor (2016-present).
- *Mathematical Models and Methods in Applied Sciences*, associate editor (2014-present).
- *Discrete and Continuous Dynamical Systems - S*, associate editor (2008-present).
- *Differential Equations and Applications*, associate editor (2008-present).

Faculty duty

- Responsible for international affairs, Faculty of Mathematics, University of Vienna (2016-present).

Reviewer and evaluation activity

- Referee VQR (Valutazione Qualità della Ricerca), ANVUR Italy (2014-present).
- INdAM-COFUND fellowships, 2015.
- Referee for the National Science Centre (Narodowe Centrum Nauki) Poland, 2015-2016.
- International referee for the *Council of Physical Sciences of the Netherlands Organization for Scientific Research (NWO)*, 2002 and 2015.
- International referee for the *NSERC Canada*, 2012.
- *External Expert* (referee) for the *IDEAS* programme of the *European Research Council*, 7th Framework Programme, 2008-2013.
- Reviewer for COST (European Cooperation in Science and Technology)

Habilitation committees

- Dietmar Ölz, 2017.
- Diego Grandi, 2015.
- Ernö Robert Csetnek, 2015.
- Calin Iulian Martin, 2015.
- Martin Ehler, 2014.

Organization

- Workshop *Emergence of Structures in Particle Systems: Mechanics, Analysis, and Computation* with A. Braides, B. Schmidt, F. Theil, *Mathematisches Forschungsinstitut Oberwolfach*, Oberwolfach, 29.10-03.11.2018.

- INdAM Workshop *Trends on Applications of Mathematics to Mechanics*, with E. Rocca, L. Truskinovski, A. Visintin, Rome, 05-09.09.2016.

- Workshop on CENTRAL trends in analysis and numerics of PDEs, with I. Perugia, Vienna, 12.11.2015-13.11.2015.

- 1st CENTRAL school in analysis and numerics of PDEs, with I. Perugia, Vienna, 09.11.2015-12.11.2015.

- Thematic program *Nonlinear Flows*, with E. Feireisl, A. Jüngel, A. Mielke, G. Savaré, Erwin Schrödinger International Institute for Mathematical Physics, Vienna, 31.05.2016-15.07.2016.

- Thematic program *Crystals, Polymers, Materials*, Wolfgang-Pauli Institute, 2015.

- *STAMM14 - Symposium on Trends in Applications of Mathematics to Mechanics* with A. Miranville, L. Truskinovski, and A. Visintin, Poitiers, 08-11.09.2014.

- Special Session with G. Akagi on *Variational methods for evolution equations* within the *10th AIMS International Conference on Dynamical Systems and Differential Equations*, Madrid, 07-11.07.2014.

- ERC Workshop on *Energy/Entropy-Driven Systems and Applications* with A. Mielke and K. Götze, Berlin 9-11.10.2013.

- ERC Workshop on *Variational Views in Mechanics and Materials*, with G. Dal Maso, M.G. Mora, and M. Negri, Pavia, Italy, 24-26.06.2013.

- Workshop *Variational Models and Methods for Evolution* with A. Visintin, Levico, Italy, 10-12.09.2012.

- Workshop *Variational Methods for Evolution* with A. Mielke, F. Otto, and S. Savaré, *Mathematisches Forschungsinstitut Oberwolfach*, Oberwolfach, 04-10.12.2011.

- Workshop *Rate-independence: Modeling, Analysis, and Computations* with G. Savaré, *BIRS*, Banff, 23.08-02.09.2010.

- Workshop *Numerical Methods for Multi-Material Fluids and Structures*, Pavia, September 2009.

- Workshop *Phase transitions in PV*, Pavia, May 2009.

- Minisymposium with A. Mielke on *Advances in Variational Evolution* within the *5th European Congress of Mathematics*, Amsterdam, July 2008.

- Special Session with A. Miranville on *Thermomechanics and phase change* within the *7th AIMS International Conference on Dynamical Systems and Differential Equations*, Arlington TX, May 2008.

- Minisymposium with T. Roubìček on *Rate-independent evolutions and material modeling* within *Equadiff 2007*, Vienna, August 2007.

TEACHING

Series of lectures in international schools and conferences

- *Variational modeling in finite plasticity*, INdAM Rome, 2017.
- Γ-*convergence for rate-independent systems and linearization in finite plasticity*, SISSA Trieste, 2015.
- *Minimization of configurational potentials and crystallization*, RWTH-AICES, Aachen, 2013.
- *MSMA modeling and analysis*, School *Rate-independent evolutions and hysteresis*, Milano, 2013.
- *The WIDE principle*, EVEQ2012: International Summer School on Evolution Equations, Prague, 2012
- TMR School on *Modeling, Control and Numerical Simulation of Smart Systems*, Pavia, 2003

PhD courses

2011-2012 *An energetic view at inelasticity*, IUSS - Institute for Advanced Study, Pavia

2006-2007 *Dissipative evolution in metric spaces*, Zürich Graduate School in Mathematics, ETH and Universität Zürich

2004-2005 *Evolution problems and hysteresis*, University of Pavia

Master courses and seminars

2016-2017 *Topics in Nonlinear Evolution*, Master Applied Math and Analysis, University of Vienna
Applied PDEs seminar, University of Vienna
Seminar *Beweisanalyse*, University of Vienna

2015-2016 Applied PDEs seminar, University of Vienna

2014-2015 Applied PDEs seminar, University of Vienna

2013-2014 *Nonlinear Evolution Equations*, Master Applied Math and Analysis, University of Vienna
Applied PDEs seminar, University of Vienna

Undergraduate teaching

2016-2017 *Partielle Differentialgleichungen*, Bachelor Mathematics, University of Vienna.
Modellierung, Bachleor Mathematics, University of Vienna.
Seminar *Beweisanalyse*, Bachelor Mathematics, University of Vienna.

2015-2016 *Höhere Analysis und elementare Differentialgeometrie*, Bachelor Mathematics, Vienna.

2014-2015 *Einführung in die Analysis*, Bachelor Mathematics, University of Vienna.
Analysis, Bachelor Mathematik, Universität Wien

2006-2013 *Mathematical Analysis 1 and 2*, Bachelor Biomedical Engrg. and Computer Sci., Pavia.

2004-2007 *Introduction to PDEs*, Bachelor Mathematics, University of Pavia.

Thesis supervision

Francesca Bonizzoni
Title: *Un modello di danneggiamento incompleto per materiali a memoria di forma*
Classe di Scienze e Tecnologie, IUSS - Institute for Advanced Study, Pavia, 2010.
This thesis was awarded the *Valter Esposti prize* on the CNR (national).

Elisabetta Repossi
Title: *Shape memory materials: Auricchio-Souza model with Armstrong-Fredericks hardening*
Classe di Scienze e Tecnologie, IUSS - Institute for Advanced Study, Pavia, 2010.

Elisabetta Chiodaroli
Title: *Un modello per SMA in deformazione finita*
Classe di Scienze e Tecnologie, IUSS - Institute for Advanced Study, Pavia, 2010.

Paolo Pacciarini
Title: *Un approccio variazionale al moto per curvatura media: risultati numerici in una dimensione*
Diploma in Mathematics, University of Pavia, 2010.

Stefano Melchionna
PhD in Mathematics, University of Vienna. (2015-present)

David Melching
PhD in Mathematics, University of Vienna. (2016-present)

Postdocs

2016 Riccardo Scala.
Theme: *Finite plasticity and damage.*
(presently Postdoc, University of Lisbon)

2015-2017 Elisa Davoli.
Theme: *Variational models in plasticity and fracture.*
(presently Universitätassistent at the University of Vienna)

2015-2017 Manuel Friedrich.
Theme: *Discrete models and evolution.*
(presently Postdoc at the University of Vienna)

2012-2016 Diego Grandi.
Theme: *Microstructures in shape-memory alloys.*
(presently Ricercatore at the University of Ferrara)

2012-2017 Paolo Piovano.
Theme: *Crystallization.*
(presently Universitätassistent at the University of Vienna)

2009-2011 Alice Fiaschi.
Theme: *Quasistatic evolution in a measure-theoretic frame.*

2010-2011 Edoardo Mainini.
Theme: *Carbon nanostructures.*
(presently Ricercatore at the University of Genova)

2011 Chiara Zanini.
Theme: *Magnetostrictive materials.*
(presently Ricercatore at the Politecnico of Turin)

2009-2010 Anne-Laure Bessoud.
Theme: *Magnetic shape-memory effect.*

2009-2011 Sergio Frigeri.
Theme: *Finite-strain shape-memory modeling.*

Spring 2010 Matthias Liero.
Theme: *Elliptic regularization of hyperbolic problems.*
(presently Postdoc at WIAS, Berlin)

Service

2017-present: Member of the *Collegio docenti* (Scientific Board) of the PhD School in *Design, Modeling, and Simulation in Engineering*, Università di Pavia.

2010-2017: Member of the *Collegio docenti* (Scientific Board) of the PhD Program in *Computational Mechanics and Advanced Materials*, Università di Pavia.

Reviewer for the PhD theses

- Vito Crismale (SISSA), 2016.
- Manuel Friedrich (Augsburg), 2015.
- Riccardo Scala (SISSA), 2014.
- Barbora Benešová (Charles University, Prague), 2012.
- Matthias Liero (WIAS Berlin), 2012.

PhD Committees

- David Sarrocco (Roma I), 2015.
- Christoph Winkler (Vienna), 2015.
- José Alberto Iglesias Martinez (Vienna), 2015.

PUBLICATIONS

Volumes edited

V5 A. Miranville, U. Stefanelli, L. Truskinovsky, A. Visintin.
Applications of Mathematics to Mechanics.
Discrete Contin. Dyn. Syst. Ser. S, 10 (2017), 1.

V4 G. Dal Maso, A. Mielke, U. Stefanelli.
Rate-independent evolutions,
Discrete Contin. Dyn. Syst. Ser. S, 6 (2013), 1.

V3 Variational methods for evolution. Abstracts from the workshop held December 4-10, 2011. Organized by Alexander Mielke, Felix Otto, Giuseppe Savaré and Ulisse Stefanelli. Oberwolfach Reports. Vol. 8, no. 4. Oberwolfach Rep. 8 (2011), no. 4, 3145-3216.

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V2 T. Roubíček, U. Stefanelli.
Rate-independent evolutions and material modeling,
Pubblicazione IMATI - CNR 29PV10/27/0, 2010.

V1 A. Miranville, U. Stefanelli.
Thermomechanics and phase change,
Discrete Contin. Dyn. Syst. Ser. S, 4 (2011), no. 2.

Technical reports and preprints

99. G. Lazzaroni, U. Stefanelli.
Chain-like minimizers in three dimensions.
Submitted, (2017).

98. G. Akagi, U. Stefanelli.
Nondecreasing solutions to doubly-nonlinear equations.
Submitted, (2017).

97. E. Davoli, U. Stefanelli.
Dynamic perfect plasticity as convex minimization.
Submitted, (2016).

96. E. Mainini, H. Murakawa, P. Piovano, U. Stefanelli.
Carbon-nanotube geometries as optimal configurations.
Submitted, (2016).

Papers in refereed journals or collections

To appear

95. G. Akagi, S. Melchionna, U. Stefanelli.
Weighted Energy-Dissipation approach to doubly-nonlinear problems on the half line.
J. Evol. Equ. (2017), to appear.

94. U. Stefanelli, D. Wachsmuth, G. Wachsmuth.
Optimal control of a rate-independent evolution equation via viscous regularization.
Discrete Contin. Dyn. Syst. Ser. S, (2017) to appear.

93. U. Stefanelli.
Stable carbon configurations.
Boll. Unione Mat. Ital. (9), (2017) to appear.

92. D. Grandi, U. Stefanelli.
Existence and linearization for the Souza-Auricchio model at finite strains.
Discrete Contin. Dyn. Syst. Ser. S, (2017) to appear.

2017

91. E. Davoli, P. Piovano, U. Stefanelli.
Sharp $n^{3/4}$ law for the minimizers of the edge-isoperimetric problem in the triangular lattice.
J. Nonlin. Sci. 27 (2017), 627–660.

90. D. Grandi, U. Stefanelli.
Finite plasticity in $P^{\top}P$. Part I: constitutive model.
Contin. Mech. Thermodyn. 29 (2017), 97–116.

89. D. Grandi, U. Stefanelli.
Finite plasticity in $P^{\top}P$. Part II: quasistatic evolution and linearization.
SIAM J. Math. Anal. 49 (2017), 1356–1384.

88. E. Mainini, H. Murakawa, P. Piovano, U. Stefanelli.
Carbon-nanotube geometries: analytical and numerical results.
Discrete Contin. Dyn. Syst. Ser. S, 10 (2017), 141–160.

2016

87. M. Friedrich, P. Piovano, U. Stefanelli.
The geometry of C_{60}: a rigorous approach via Molecular Mechanics.
SIAM J. Appl. Math. 76 (2016), 2009–2029.

86. F. Auricchio, E. Boatti, A. Reali, U. Stefanelli.
Gradient structures for the thermomechanics of shape-memory materials.
Comput. Methods Appl. Mech. Engrg. 299 (2016), 440–469.

85. E. Davoli, P. Piovano, U. Stefanelli.
Wulff shape emergence in graphene.
Math. Models Methods Appl. Sci. 26 (2016), 2277–2310.

84. G. Akagi, U. Stefanelli.
A variational principle for gradient flows of nonconvex energies.
J. Convex Anal., 23 (2016), 53–75.

2015

83. M. Kružík, U. Stefanelli, J. Zeman.
Existence results for incompressible magnetoelasticity.
Discrete Contin. Dyn. Syst., 35 (2015), 6:2615–2623.

82. D. Grandi, U. Stefanelli.
The Souza-Auricchio model for shape-memory alloys.
Discrete Contin. Dyn. Syst. Ser. S, 8 (2015), 4:727–743.

81. F. Auricchio, A.-L. Bessoud, A. Reali, U. Stefanelli.
A phenomenological model for the magneto-mechanical response of single-crystal Magnetic Shape Memory Alloys.
Eur. J. Mech. A Solids, 52 (2015), 1-11.

80. M. Kružík, U. Stefanelli, C. Zanini.
Quasistatic evolution of magnetoelastic thin films via dimension reduction.
Discrete Contin. Dyn. Syst., 35 (2015), 12:5999–6013.

2014

79. D. Grandi, U. Stefanelli.
A phenomenological model for microstructure-dependent inelasticity in shape-memory alloys.
Meccanica, 49 (2014), 9:2265–2283.

78. E. Mainini, U. Stefanelli.
Crystallization in carbon nanostructures.
Comm. Math. Phys., 328 (2014), 2:545–571.

77. T. Roche, R. Rossi, U. Stefanelli.
Stability results for doubly nonlinear differential inclusions by variational convergence.
SIAM J. Control Optim., 52 (2014), 2:1071–1107.

76. G. Akagi, U. Stefanelli.
Doubly nonlinear evolution equations as convex minimization.
SIAM J. Math. Anal., 46 (2014), 3:1922–1945.

75. E. Mainini, P. Piovano, U. Stefanelli.
Finite crystallization in the square lattice.
Nonlinearity, 27 (2014), 717–737.

74. T. Roubíček, U. Stefanelli.
Magnetic shape-memory alloys: thermomechanical modeling and analysis.
Contin. Mech. Thermodyn., 26 (2014), 6:783–810.

2013

73. A. Mielke, U. Stefanelli.
Linearized plasticity is the evolutionary Γ-limit of finite plasticity.
J. Eur. Math. Soc. (JEMS), 15 (2013), 3:923–948.

72. M. Eleuteri, L. Lussardi, U. Stefanelli.
Thermal control of the Souza-Auricchio model for shape memory alloys.
Discrete Contin. Dyn. Syst.-S, 6 (2013), 2:369–386.

71. A.-L. Bessoud, M. Kružík, U. Stefanelli.
A macroscopic model for magnetic shape-memory single crystals.
Z. Angew. Math. Phys., 64 (2013), 343–359.

70. D. Bucur, G. Buttazzo, U. Stefanelli.
Shape flows for spectral optimization problems.
Interfaces Free Bound., 14 (2013), 521–544.

69. M. Liero, U. Stefanelli.
A new minimum principle for Lagrangian mechanics.
J. Nonlinear Sci., 23 (2013), 2:179–204.

68. M. Liero, U. Stefanelli.
Weighted Inertia-Dissipation-Energy functionals for semilinear equations.
Boll. Unione Mat. Ital. (9), 6 (2013), 1:1–27.

67. G. Francfort, U. Stefanelli.
Quasi-static evolution for the Armstrong-Frederick hardening-plasticity model.
Appl. Math. Res. Express. AMRX, (2013) 2:297–344.

2012

66. S. Frigeri, U. Stefanelli.
Existence and time-discretization for the finite-strain Souza-Auricchio constitutive model for shape-memory alloys. *Contin. Mech. Thermodyn.*, 24 (2012), 1:63–77.

65. U. Stefanelli.
Magnetic control of magnetic shape-memory crystals.
Phys. B, 407 (2012), 1316–1321.

64. A. Fiaschi, D. Knees, U. Stefanelli.
Young-measure quasi-static damage evolution.
Arch. Ration. Mech. Anal., 203 (2012), 2:415–453.

2011

63. R. Rossi, G. Savaré, A. Segatti, U. Stefanelli.
A variational principle for gradient flows in metric spaces.
C. R. Math. Acad. Sci. Paris, 349 (2011), 1225–1228.

62. E. Spadaro, U. Stefanelli.
A variational view at the time-dependent minimal surface equation.
J. Evol. Equ., 11 (2011), 4:793–809.

61. A. Mielke, U. Stefanelli.
Weighted energy-dissipation functionals for gradient flows.
ESAIM Control Optim. Calc. Var., 17 (2011), 1:52–85.

60. F. Auricchio, A.-L. Bessoud, A. Reali, U. Stefanelli.
A three-dimensional phenomenological model for Magnetic Shape Memory Alloys.
GAMM-Mitt., 34 (2011), 1:90–96.

59. A.-L. Bessoud, U. Stefanelli.
Magnetic Shape Memory Alloys: three-dimensional modeling and analysis.
Math. Models Meth. Appl. Sci., 21 (2011), 5:1043–1069.

58. R. Rossi, A. Segatti, U. Stefanelli.
Global attractors for gradient flows in metric spaces.
J. Math. Pures Appl. (9), 95 (2011), 2:204–244.

57. P. Krejčí, U. Stefanelli.
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