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ULISSE STEFANELLI, CURRICULUM VITAE

CONTACT

Faculty of Mathematics, University of Vienna,
Oskar-Morgenstern-Platz 1, A-1090 Vienna, Austria.

phone & fax: +43-(0)1-4277-50799
ulisse.stefanelli@univie.ac.at

Website: <http://www.mat.univie.ac.at/~stefanelli/>

Researcher ID: F-8139-2014

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

Born September 19, 1975. Italian citizenship.

RESEARCH INTERESTS

Main research fields: Partial Differential Equations, Calculus of Variations, Continuum Thermo-mechanics.

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, Plasticity, Magnetic materials. Atomistic models, Crystallization.

POSITIONS

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

2010 - today *Research 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.
- 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, LAST FIVE YEARS

Invited Lectures

- *Equadiff 15*, Brno, July 2022 (seminary).
- *PDE 2019: Partial Differential Equations in Fluids and Solids*, Berlin, September 2019, keynote.
- 6th GAMM-Workshop on the *Analysis of Partial Differential Equations*, Stuttgart, September 2018, keynote.
- Workshop *Advances in Calculus of Variations*, Naples, June 2022.
- Workshop *Phase-field methods in applied sciences*, INdAM, Rome, May 2022.
- Workshop *Beyond elasticity: advances and research challenges*, CIRM, Luminy, May 2022.
- SIAM Conference on *Analysis of partial differential equations*, Berlin (online), June 2022.
- DMV-ÖMG Annual Conference 2021 (online), September-October 2021.
- 15th International Conference on *Free Boundary Problems: Theory and Applications* (online), September 2021.
- 6th Applied Mathematics Symposium Münster *Recent advances in the Calculus of Variations*, Münster, Germany, September 2019.
- *PDE 2019: Partial Differential Equations in Fluids and Solids*, Weierstraß Institute, Berlin, Germany, September, 2019.
- 71st Workshop on *Advances in Nonsmooth Analysis and Optimization*, Erice, Italy, June 2019.
- Workshop on *Modern Maximal Monotone Operator Theory: From Nonsmooth Optimization to Differential Inclusions*, ESI Vienna, January 2019.
- *Analysis of Evolutionary and Complex Systems*, Berlin, September 2018.
- Workshop on *Special Materials and Complex Systems*, Gargnano, Italy, June 2018.

- Conference *Games, Dynamics and Optimization*, Vienna, March 2018.

Seminars

- *Quasistatic evolution of soft growing materials*, PDE seminar (online), Nancy, June 2022.
- *Some variational problems in morphoelasticity*, KAUST (online), March 2022.
- *Crystallization*, Seminari Informali di Matematica, Pavia (online), December 2021.
- *Existence results for a morphoelastic model*, Nečas Seminar, Charles University, Prague (online), November 2021.
- *A variational approach to Navier-Stokes*, Seminari di Matematica Applicata, Pavia (online), June 2021.
- *The equilibrium of floating elastic bodies*, Analysis Seminar, University of Western Australia, Perth (online), May 2021.
- *Navier-Stokes by variational methods*, Salzburg Mathematics Colloquium, Paris Lodron University Salzburg, March 2019.
- *Sidestepping intermediate configurations in finite plasticity*, Solid Mechanics Laboratory, École Polytechnique, Paris, 2018.
- *Graphene from Molecular Mechanics*, Politecnico di Milano, MOX Seminar Series, 2018.

GRANTS

Speaker

- FWF Special Research Program F65 *Taming Complexity in Partial Differential Systems*, 2017-2025. 8.6M€.

Principal Investigator, Project-Part Leader

- FWF-GAČR International Joint Project *Scales and Shapes in Continuum Thermomechanics*, 2021-2025. 174K€.
- FWF-DFG International Joint Project *Variational Modeling of Molecular Geometries*, 2020-2023. 358K€.
- FWF Stand-Alone Grant *Challenges for the WIDE variational principle*, 2020-2024. 488K€.
- FWF Special Research Program F65, Project-Part *Multiphysics in solids*, 2017-2025. 599K€.
- FWF Special Research Program F65, Project-Part *Coordination*, 2017-2025. 727K€
- 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€.
- FWF-GAČR International Joint Project *Variational Structures in Thermomechanics of Solids* , 2016-2019. 114K€.
- 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

- Research Platform of the University of Vienna *ViRAPID - Vienna Platform for Accelerating Photo-reaction Discovery* 2020-2023. 550K€. Co-PIs Leticia González, Philipp Marquetand, and Christoph Dellago.
- 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.

PROFESSIONAL SERVICE

Advisory

- *Weierstrass Institute for Applied Analysis and Stochastics*, Berlin, Scientific Advisory Board (member 2015-2020, speaker 2020-)

Editorial boards

- *Advances in Calculus of Variations*, associate editor (2022-present).
- *Transactions of Mathematics and its 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).

University and Faculty duties

- Member of the University Senate, (2022-2025).
- Responsible for international affairs, Faculty of Mathematics, University of Vienna (2016-present).
- Doctoral program in Mathematics, deputy director (2020-).
- Vienna School of Mathematics, deputy director (2020-).

Organization

- 1st Austrian Calculus of Variations day, with R. Bot, M. Tommasini, Vienna 17-18.10.2019.
- Applied Analysis Section, GAMM, with P. Dondl, Vienna 18-22.02.2019.
- 1st International SFB Workshop on *Taming Complexity in Partial Differential Systems* with A. Arnold, A. Jüngel, J. Maas, P. A. Markowich, N. J. Mauser, C. Schmeiser, Vienna 25-27.02.2019.
- 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. Roubiček on *Rate-independent evolutions and material modeling* within *Equa-diff 2007*, Vienna, August 2007.

PUBLICATIONS

Volumes edited

- V6 E. Rocca, U. Stefanelli, L. Truskinovsky, A. Visintin. Trends in applications of Mathematics to Mechanics. Springer INdAM Series, no. 27. Springer, 2018.
- 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 models 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.
- 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

152. F. Auricchio, M. Marino, I. Mazari, U. Stefanelli. Analysis of a combined Filtered/Phase-Field approach to topology optimization in elasticity. Submitted, 2022.
151. K. Brazda, M. Kržík, U. Stefanelli. Generalized Minimizing Movements for the varifold Canham-Helfrich flow. Submitted, 2022. [arXiv: 2207.03426](#)
150. S. Buccheri, U. Stefanelli. Viscosity solutions for nonlocal equations with space-dependent operators. Submitted, 2022. [arXiv: 2205.15362](#)
149. T. Roubíček, U. Stefanelli. Viscoelastodynamics of swelling porous solids at large strains by an Eulerian approach. Submitted, 2022. [arxiv: 2201.10959](#)
- 148.
147. L. Scarpa, U. Stefanelli. Rate-independent stochastic evolution equations: parametrized solutions. Submitted, 2021. [arxiv: 2109.15208](#)
146. M. Friedrich, W. Górný, U. Stefanelli. The Double-Bubble Problem on the square lattice. Submitted, 2021. [arxiv: 2109.01697](#)

145. E. Davoli, I. Mazari, U. Stefanelli.
Spectral optimization of inhomogeneous plates. Submitted, 2021. [arxiv: 2107.11207](#)
144. M. Bathory, U. Stefanelli.
Variational resolution of outflow boundary conditions for incompressible Navier-Stokes. Submitted, 2021. [arxiv: 2105.00296](#)

Papers in refereed journals or collections

To appear

143. S. Almi, U. Stefanelli.
Topology optimization for quasistatic elastoplasticity.
ESAIM Control Optim. Calc. Var. To appear, (2022).
[arxiv: 2012.03764](#)
142. E. Davoli, K. Nik, U. Stefanelli.
Existence results for a morphoelastic model. *ZAMM Z. Angew. Math. Mech.* To appear, (2022).
[arxiv: 2110.05566](#)
141. U. Stefanelli. A new minimizing-movements scheme for curves of maximal slope.
ESAIM Control Optim. Calc. Var. To appear, (2022).
[arxiv: 2103.00846](#)
140. M. Friedrich, M. Seitz, U. Stefanelli.
Tilings with nonflat squares: a characterization. *Milan J. Math.* To appear, (2022).
[arxiv: 2108.01954](#)
139. K. Brazda, G. Jankowiak, C. Schmeiser, U. Stefanelli.
[Bifurcation of elastic curves with modulated stiffness.](#)
European J. Appl. Math. To appear, (2022).
138. L. Scarpa, U. Stefanelli.
[Doubly nonlinear stochastic evolution equations II.](#)
Stoch. Partial Differ. Equ. Anal. Comput. To appear, (2022).

2022

137. E. Davoli, A. O. Molchanova, U. Stefanelli.
[Equilibria of charged hyperelastic solids.](#)
SIAM J. Math. Anal. 54 (2022), no. 2, 1470–1487.
136. A. Jüngel, U. Stefanelli, L. Trussardi.
[A minimizing-movements approach to GENERIC systems.](#)
Math. Eng. 4 (2022), no. 1, Paper No. 005, 18 pp.

2021

135. M. Friedrich, M. Kružík, U. Stefanelli.
[Equilibrium of immersed hyperelastic solids.](#)
Discrete Contin. Dyn. Syst. Ser. S, 14 (2021), no. 11, 4141–74
134. L. Bétermin, M. Friedrich, U. Stefanelli.
[Angle-rigidity for \$\mathbb{Z}^2\$ configurations.](#)
Nonlinearity, 34 (2021), 8392–8413.

133. D. Melching, M. Neunteufel, J. Schöberl, U. Stefanelli.
A finite-strain model for incomplete damage in elastoplastic materials. *Comput. Methods Appl. Mech. Engrg.* 374 (2021), Paper No. 113571, 28 pp.
132. L. Scarpa, U. Stefanelli.
Stochastic PDEs via convex minimization.
Comm. Partial Differential Equations, 46 (2021), no. 1, 66–97.
131. S. Almi, U. Stefanelli.
Topology optimization for incremental elastoplasticity: a phase-field approach. *SIAM J. Control Optim.* 59 (2021), no. 1, 339–364.
130. R. Scala, U. Stefanelli.
Linearization for finite plasticity under dislocation-density tensor regularization.
Contin. Mech. Thermodyn. 33 (2021), no. 1, 179–208.
129. C. Marinelli, L. Scarpa, U. Stefanelli.
An alternative proof of well-posedness of stochastic evolution equations in the variational setting.
Rev. Roumaine Math. Pures Appl. 66 (2021), no. 1, 209–221.
128. E. Davoli, M. Kružík, P. Piovano, U. Stefanelli.
Magnetoelastic thin films at large strains.
Contin. Mech. Thermodyn. 33 (2021), no. 2, 327–341.
127. L. Bétermin, M. Friedrich, U. Stefanelli.
Lattice ground states for embedded-atom models in 2d and 3d.
Lett. Math. Phys. 111 (2021), no. 4, Paper No. 107, 28 pp.
126. M. Marino, F. Auricchio, A. Reali, E. Rocca, U. Stefanelli.
Mixed variational formulations for structural topology optimization based on the phase-field approach.
Struct. Multidiscip. Optim. 64 (2021), no. 4, 2627–2652.
125. E. Davoli, T. Roubíček, U. Stefanelli.
A note about hardening-free viscoelastic models in Maxwellian-type rheologies.
Math. Mech. Solids, 26 (2021), 1483–1497.
124. L. Scarpa, U. Stefanelli.
The Energy-Dissipation Principle for stochastic parabolic equations.
Adv. Math. Sci. Appl. 30 (2021), 427–451
123. R. Rossi, U. Stefanelli, M. Thomas.
Rate-independent evolution of sets.
Discrete Contin. Dyn. Syst. Ser. S, 14 (2021), 89–119.
- 2020**
122. D. Melching, U. Stefanelli.
[Well-posedness of a one-dimensional nonlinear kinematic hardening model.](#)
Discrete Contin. Dyn. Syst. Ser. S, 13 (2020), 2271–2284.
121. M. Kružík, D. Melching, U. Stefanelli.
Quasistatic evolution for dislocation-free finite plasticity.
ESAIM Control Optim. Calc. Var., 26 (2020), 123.
120. D. Grandi, M. Kružík, E. Mainini, U. Stefanelli.
Equilibrium for multiphase solids with Eulerian interfaces.
J. Elasticity, 142 (2020), 409–431.

119. L. Scarpa, U. Stefanelli.
An order approach to SPDEs with antimotone terms.
Stoch. Partial Differ. Equ. Anal. Comput. 8 (2020), 819–832.
118. M. Friedrich, U. Stefanelli.
[Ripples in graphene: a variational approach.](#)
Comm. Math. Phys. 379 (2020), 914–954.
117. L. Scarpa, U. Stefanelli.
[Doubly nonlinear stochastic evolution equations.](#)
Math. Models Meth. Appl. Sci. 30 (2020), 991–1031.
116. K. Brazda, L. Lussardi, U. Stefanelli.
Existence of varifold minimizers for the multiphase Canham-Helfrich functional.
Calc. Var. Partial Differential Equations, 59 (2020), Paper No. 93, 26 pp.
115. L. Courte, P. Dondl, U. Stefanelli.
Pinning of interfaces by localized dry friction.
J. Differential Equations, 269 (2020), 7356–7381.
114. M. Friedrich, U. Stefanelli.
Crystallization in a one-dimensional periodic landscape.
J. Stat. Phys., 179 (2020), 485–501.

2019

113. L. Portinale, U. Stefanelli.
Penalization via global functionals of optimal-control problems for dissipative evolution.
Adv. Math. Sci. Appl. 28 (2019), 425–447.
112. E. Davoli, T. Roubíček, U. Stefanelli.
[Dynamic perfect plasticity and damage in viscoelastic solids.](#)
ZAMM Z. Angew. Math. Mech. 99 (2019), e201800161, 27 pp.
111. A. Jüngel, U. Stefanelli, L. Trussardi.
[Two time discretizations for gradient flows exactly replicating energy dissipation.](#)
Appl. Math. Optim. 80 (2019), 733–764.
110. E. Mainini, P. Piovano, B. Schmidt, U. Stefanelli.
 [\$N^{3/4}\$ law in the cubic lattice.](#)
J. Stat. Phys. 176 (2019), 1480–1499.
109. E. Davoli, U. Stefanelli.
[Dynamic perfect plasticity as convex minimization.](#)
SIAM J. Math. Anal. 51 (2019), 672–730.
108. T. Roubíček, U. Stefanelli.
[Finite thermoelastoplasticity and creep under small elastic strains.](#)
Math. Mech. Solids, 24 (2019), 1161–1181.
107. U. Stefanelli.
[Existence for dislocation-free finite plasticity.](#)
ESAIM Control Optim. Calc. Var. 25 (2019), Art. 21, 20 pp.
106. R. Rossi, G. Savaré, A. Segatti, U. Stefanelli.
[Weighted Energy-Dissipation principle for gradient flows in metric spaces.](#)
J. Math. Pures Appl. (9), 127 (2019), 1–66.

105. D. Grandi, M. Kružík, E. Mainini, U. Stefanelli.
[A phase-field approach to Eulerian interfacial energies.](#)
Arch. Ration. Mech. Anal. 234 (2019), 351–373.

2018

104. U. Ludacka, M. R. A Monazam, C. Rentenberger, M. Friedrich, U. Stefanelli, J. C. Meyer, J. Kotakoski.
[In situ control of graphene ripples and strain in the electron microscope.](#)
npj 2D Materials and Applications, 1 (2018), 25.
103. G. Lazzaroni, U. Stefanelli.
[Chain-like ground-states in three dimensions.](#)
Trans. Math. Appl. 2 (2018), 1–22
102. B. Schmidt, M. Ortiz, U. Stefanelli.
[A variational approach to Navier-Stokes.](#)
Nonlinearity, 231 (2018) 5664.
101. M. Friedrich, E. Mainini, P. Piovano, U. Stefanelli.
[Characterization of optimal carbon nanotubes under stretching and validation of the Cauchy-Born rule.](#)
Arch. Ration. Mech. Anal. 231 (2019), 465–517.
100. T. Roubíček, U. Stefanelli.
[Thermodynamics of elastoplastic porous rocks at large strains towards earthquake modeling.](#)
SIAM J. Appl. Math. 78 (2018), 2597–2625.
99. M. Friedrich, U. Stefanelli.
[Graphene ground states.](#)
Z. Angew. Math. Phys. 69 (2018), Art. 70, 18 pp.
98. M. Kružík, C. Mora-Corral, U. Stefanelli.
[Quasistatic elastoplasticity via Peridynamics: existence and localization.](#) *Contin. Mech. Thermodyn.* 30 (2018), 1155–1184.
97. G. Akagi, S. Melchionna, U. Stefanelli.
[Weighted Energy-Dissipation approach to doubly-nonlinear problems on the half line.](#)
J. Evol. Equ. 18 (2018), 49–74.

2017

96. G. Akagi, U. Stefanelli.
[Nondecreasing solutions to doubly-nonlinear equations.](#)
Solvability, Regularity, Optimal Control of Boundary Value Problems for PDEs, Springer INdAM Ser., no. 22, pp. 31-53, 2017.
95. U. Stefanelli.
[Stable carbon configurations.](#)
Boll. Unione Mat. Ital. 10 (2017), 335–354.
94. E. Mainini, H. Murakawa, P. Piovano, U. Stefanelli.
[Carbon-nanotube geometries as optimal configurations.](#)
Multiscale Model. Simul. 15-4 (2017), 1448–1471.
93. U. Stefanelli, D. Wachsmuth, G. Wachsmuth.
[Optimal control of a rate-independent evolution equation via viscous regularization.](#)
Discrete Contin. Dyn. Syst. Ser. S, 10 (2017), 1467–1485.

92. D. Grandi, U. Stefanelli.
[Existence and linearization for the Souza-Auricchio model at finite strains.](#)
Discrete Contin. Dyn. Syst. Ser. S, 10 (2017), 1257–1280.
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 plates 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 \$\Gamma\$ -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. doi10.3934/dcdss.2013.6.369
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