

Andrea Piccolroaz

Curriculum Vitae

Associate Professor
Department of Civil, Environmental and Mechanical Engineering
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Scopus Author Identifier: 6504769008
Web of Science ResearcherID: G-7875-2012
Orcid: <https://orcid.org/0000-0002-0537-8323>

EDUCATION

- 2000 **Materials Engineering degree**, University of Trento.
Thesis: *Pressatura a freddo di polveri ceramiche: indagine sperimentale e modellazione costitutiva*. Tutor: Prof. Davide Bigoni.
- 2004 **PhD in Materials and Structural Engineering**, University of Trento.
Thesis: *Elastoplastic models of compaction of granular materials*. Tutors: Prof. Davide Bigoni, Prof. John Willis, Prof. Alessandro Gajo.
- 2006 **Post-doc** at the Department of Mathematical Sciences, University of Liverpool, UK.
Host: Prof. Alexander Movchan

CURRENT POSITION

- 2014 – ... **Associate Professor in Solid and Structural Mechanics**, Department of Civil, Environmental and Mechanical Engineering, University of Trento.

PREVIOUS POSITIONS

- 2006 – ... **Research Associate**, Applied Mathematics Division, Department of Mathematical Sciences, *University of Liverpool*, UK.
- 2007 – 2010 **Assistant Professor** in Solid and Structural Mechanics, Department of Mechanical and Structural Engineering, University of Trento, Italy
- 2010 – 2012 **Marie Curie Fellow (IEF)**, Aberystwyth University, Aberystwyth, UK.
Host: Prof. Gennady Mishuris
- 2012 – 2014 **Assistant Professor in Solid and Structural Mechanics**, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Italy
- 2013 – 2017 **Marie Curie Fellow (FP7 - PEOPLE - Career Integration Grant)**, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Italy

RESEARCH GRANTS AS COORDINATOR/PRINCIPAL INVESTIGATOR

| | Project | Role | Funding Body | Duration (years) | Budget (Euro) |
|----|---|--------------------------------------|--|------------------|---------------|
| 1. | INTERCRACKS Unsolved problems in Fracture Mechanics of heterogeneous materials (MARIE CURIE IEF 2009) | Principal Investigator | European Commission (FP7 IEF Project) | 2 | 173,903.00 |
| 2. | CERMAT2 New ceramic technologies and novel multifunctional ceramic devices and structures (MARIE CURIE ITN 2013) | European Coordinator | European Commission (FP7 ITN Project) | 4 | 2,571,864.00 |
| 3. | MEMIC Fracture mechanics of microstructured composites incorporating intrinsic length-scales (MARIE CURIE CIG 2013) | Principal Investigator | European Commission (FP7 CIG Project) | 4 | 100,000.00 |
| 4. | FIRB 2010 Structural mechanics models for renewable energy applications | Scientific Coordinator of UNITN unit | MIUR (FIRB Fondo per gli investimenti della ricerca di base) | 4 | 954,800.00 |
| 5. | RE-FRACTURE2 Modelling and optimal design of refractories for high-temperature industrial applications for a low carbon society | European Coordinator | European Commission (H2020 ITN Project) | 4 | 1,471,290.48 |

Total 5,271,857.48

UNIVERSITY SERVICES

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|-------------------------|--|
| 21/11/2007 – 31/07/2010 | Membro della Giunta di Dipartimento, Department of Mechanical and Structural Engineering. |
| 01/09/2008 – 31/07/2010 | Membro della commissione per le abbreviazioni di carriera, Faculty of Engineering. |
| 08/06/2016 – 20/09/2018 | Membro della Giunta di Dipartimento, Department of Civil, Environmental and Mechanical Engineering. |
| 01/04/2013 – present | Membro del Gruppo di Autovalutazione (GAV) del Dipartimento, Department of Civil, Environmental and Mechanical Engineering. |
| 15/05/2015 – present | Vice-Coordinatore di Area Didattica in Ingegneria Civile, |

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|----------------------|---|
| 01/07/2017 – present | Department of Civil, Environmental and Mechanical Engineering. Membro della Commissione per i Bandi della Didattica, Department of Civil, Environmental and Mechanical Engineering. |
| 14/11/2017 – present | Delegato di Dipartimento per la Research Integrity, Department of Civil, Environmental and Mechanical Engineering. |
| 15/10/2018 – present | Membro del Comitato Didattico del Centro Linguistico di Ateneo, Department of Civil, Environmental and Mechanical Engineering. |

TEACHING EXPERIENCE

Supervision of Post-doc:

- Lorenzo Morini, post-doc position for 3 years (2013-2015) for the project *Structural mechanics models for renewable energy applications*, **financed by FIRB 2010 grant.**
- Andrea Bacigalupo, post-doc position for 1 year (2014) for the project *Damage in microstructured materials and devices*, **financed by FIRB 2010 grant.**
- Monika Perkowska, post-doc position for 1 year (06/2016-05/2017) for the project *Analysis of redirection of a crack driven by viscous fluid*, **financed by the FP7 ITN CERMAT2 grant.**
- Luigi Cabras, post-doc position for 18 months (2016-2017) for the project *3D printed metallic foams for biomedical applications: understanding and improving their mechanical behaviour*, **financed by the University of Trento.**
- Luca Viviani, post-doc position for 24 months (2022-2024) for the project *Nonlinear dynamics of structure and solids.*

Supervision of PhD students:

- Luca Argani, Engineering of Civil and Mechanical Structural Systems, 26th cycle.
- Massimo Penasa, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 29th cycle.
- Scot Swan, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 29th cycle, **financed by the FP7 ITN CERMAT2 grant.**
- Nicola Bordignon, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 30th cycle.
- Daniel Kempen, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 31st cycle, **financed by the FP7 ITN CERMAT2 grant.**
- Diana Giarola, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 31st cycle
- Giovanni Bordiga, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 32nd cycle.
- Marco Rossi, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 33nd cycle.
- Mattia Nardin, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 34nd cycle.
- Marco Amato, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 36nd cycle.
- Gaetano Colella, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 36nd cycle.
- Shubhra Pande, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 37nd cycle, **financed by the H2020 ITN RE-FRACTURE2 grant.**

- Lorenzo Fiore, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 37nd cycle, **financed by the H2020 ITN RE-FRACTURE2 grant.**
- Kaoutar Anrhour, Doctoral Programme in Civil, Environmental and Mechanical Engineering, 37nd cycle, **financed by the H2020 ITN RE-FRACTURE2 grant.**

Supervision of undergraduate and graduate students:

- Elena Mattivi, Compressione a freddo di polveri ceramiche per usi strutturali, 2006.
- Enrico Cazzador, Modelli Micromeccanici di Comportamento di Solidi Murari, 2009.
- Francesco Poltronieri, Modellazione elastoplastica del conglomerato di cemento, 2009.
- Bruschetta Federico, Un modello elastoplastico per le polveri metalliche e ceramiche, 2010.
- Massimo Penasa, Sviluppo di un algoritmo di integrazione per leggi costitutive elastoplastiche non standard, 2011
- Alessandro Cazzolli, Termoelasticita' e termoplasticit  con modulo elastico variabile rispetto alla temperatura e implementazione con il software abaqus, 2012.
- Francesco Poltronieri, Un modello costitutivo termo-elasto-plastico per il calcestruzzo e applicazione alla resistenza al fuoco di strutture, 2012.
- Mattia Sonato, Modelling of elasto-plastic adhesive joints between elastic components: derivation of transmission conditions by asymptotic techniques, 2013.
- Niccol  Boccagni, Determinazione della superficie di snervamento di un provino tramite simulazioni di prove triassiali, 2014.
- Nicola Bordignon, Modellazione e simulazione di giunti adesivi con tecniche asintotiche, 2014.
- Chiara Nardin, Instabilit  delle strutture in grandi deformazioni: l'elastica di Eulero, 2015
- Alessio Froner, Programma agli Elementi Finiti per la risoluzione di Telai Piani: implementazione in Mathematica, 2017.
- Giorgio Caumo, Procedimento per la risoluzione di un problema non-lineare mediante algoritmo di Newton, 2017
- Cvete Pavloski, Vibrazioni longitudinali delle travi, risoluzione attraverso metodi FEM, 2019.
- Nicola Viglio, Calcolo dell'equazione della catenaria tramite l'implementazione agli elementi finiti, 2019.
- Nicol  Lanaro, Analisi non lineare delle strutture, 2019.
- Salvetti Lorenzo, Analisi agli elementi finiti della catenaria, 2019.
- Mattia Zini, Vibrazioni longitudinali e flessionali di una trave con applicazione e confronto, 2020.
- Dylan Bortoluzzi, Modelli costitutivi elastoplastici ed implementazione fem: confronto tra implementazione implicita in abaqus standard ed implementazione esplicita in abaqus explicit, 2021.
- Fiorella Beber, Criterio di snervamento di Bigoni – Piccolroaz per il ghiaccio, 2021.
- Andrea Pasqualini, Analisi mediante modellazione multi-fisica del potere fonoisolante di alcuni materiali da costruzione, 2022.
- Fabio Campagnola, Instabilit  di travi circolari soggette a varie tipologie di carico, 2022.
- Enrico Caberlotto, Calcolo del carico critico di travi ad arco soggette a carichi di pressione, 2022.

Undergraduate, graduate courses and PhD courses:

| Course Title | Years |
|---|-------------|
| Mechanics of Materials and Fracture Mechanics (Meccanica dei Materiali e della Frattura) | 2006 - 2010 |

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| Structural Instability (Instabilità delle Strutture) | 2006 - 2010 2012 - present |
| Solid and Structural Mechanics (Scienza delle Costruzioni) | 2009 - 2010 |
| Statics (Statica) | 2012 - 2013 |
| Fracture Mechanics (Meccanica della Frattura) | 2012 - 2014 |
| Computational Mechanics of Structures 1 (Meccanica Computazionale delle Strutture 1) | 2016 - present |
| Computational Mechanics of Structures 2 (Meccanica Computazionale delle Strutture 2) | 2019 - present |
| Nonlinear Solid Mechanics (PhD course) | 2022 |
| Extreme mechanics (PhD course) | 2022 |

INTERNATIONAL EXPERIENCES

| | Host Institution | Period | Duration (months) |
|----|--|-------------------------|----------------------|
| 1. | Visiting Researcher, Department of Applied Mathematics and Theoretical Physics, University of Cambridge, Cambridge, UK. | 20/05/2003 - 30/09/2003 | 4 |
| 2. | Research Associate , Applied Mathematics Division, Department of Mathematical Sciences, University of Liverpool, Liverpool, UK. | 09/01/2006 - 09/10/2006 | 9 |
| 3. | Visiting Researcher, Applied Mathematics Division, Department of Mathematical Sciences, University of Liverpool, Liverpool, UK. | 12/07/2007 - 31/07/2007 | 1 |
| 4. | Visiting Researcher, Institute of Mathematics and Physics, Aberystwyth University, Aberystwyth, UK. | 07/07/2008 - 07/09/2008 | 2 |
| 5. | Visiting Researcher, Institute of Mathematics and Physics, Aberystwyth University, Aberystwyth, UK. | 14/07/2009 - 31/08/2009 | 2 |
| 6. | Visiting Researcher, International Centre for Mathematical Sciences, Edinburgh, UK. | 05/07/2010 - 30/07/2010 | 1 |
| 7. | Marie Curie Fellow (IEF) , Aberystwyth University, Aberystwyth, UK. | 01/08/2010 - 31/07/2012 | 24 |
| 8. | Visiting Researcher, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK. | 05/08/2019 - 30/08/2019 | 1 |

PARTICIPATION IN OTHER RESEARCH PROJECTS

1. MIUR-COFIN 2003: *Mechanical damage phenomena of interfaces in structural systems: applications to civil engineering and emerging research fields*. Trento

- Research Unit, Coordinator Prof. A. Tralli.
2. MARIE CURIE ToK 2004 (MTKD-CT-2004-509809): *Mathematical modelling of fracture in adhesive joints*. Coordinator Prof. A.B. Movchan.
 3. SACMI 2005: *Modelling and simulation of ceramic powder compaction*. Coordinator Prof. D. Bigoni.
 4. VESUVIUS 2009: *Modelling and analysis of damage in alumina components for steel industry*. Coordinator Prof. D. Bigoni.
 5. ICMS Research-in-groups 2010: *Singular solutions of mathematical elasticity in compound domains and modelling of failure in bi-material structural interfaces*. Coordinator Prof. G. Mishuris. <http://www.icms.org.uk/proposals/rigs>
 6. ERC-2013-ADG-340561-INSTABILITIES *Instabilities and nonlocal multiscale modelling of materials*. Principal Investigator Prof. D. Bigoni.
 7. PIAPP-GA-2013-609758-HOTBRICKS, *Mechanics of refractory materials at high-temperature for advanced industrial technologies*. Coordinator: Francesco Dal Corso.
 8. WHT *Bringing pure and applied analysis together via the Wiener-Hopf technique, its generalisations and applications*. Coordinator: Anastasia Kisil.
 9. ERC-ADG-2021-101052956-BEYOND *Beyond hyperelasticity: a virgin land of extreme materials*. Principal Investigator Prof. D. Bigoni.

INVITED TALKS AT INTERNATIONAL WORKSHOPS AND CONFERENCES

- | Title | Date |
|---|-------------------|
| 1. <i>A dynamical interpretation of flutter instability in a continuous medium.</i> Workshop on asymptotic methods and integral equations. Department of Civil and Structural Engineering, University of Sheffield. | 19 June 2006 |
| 2. <i>Weight functions and evaluation of Lazarus-Leblond constants in singular asymptotics at the edge of an interfacial wavy crack.</i> Workshop on singularities and fracture mechanics. Department of Mathematics, University of Keele. | 19 July 2007 |
| 3. <i>Failure of brittle materials through crack propagation. Perturbation models for interfacial cracks.</i> Istanbul Teknik Universitesi, Istanbul. | 11 February 2009. |
| 4. <i>Unsymmetrical loading of interfacial cracks.</i> Escuela Superior de Ingenieros, Universidad de Sevilla. | 24 September 2009 |
| 5. <i>New fundamental solutions in linear fracture mechanics disclosed by the Wiener-Hopf technique.</i> Wiener-Hopf Workshop. Institute of Mathematical and Physical Sciences, Aberystwyth University. | 28-29 June 2010 |
| 6. <i>Crack propagation in heterogeneous materials with several defects.</i> Italian/British Workshop on Fluid & Solids Interaction and Fracture & Failure of Solids and Structures. Institute of Mathematical and Physical Sciences, Aberystwyth University. | 16 August 2011 |

7. *Fracture in heterogeneous and microstructured materials.* 26-27 March 2012
Workshop on Homogenization and micromechanics to understand the mechanical properties of bone.
School of Mathematics, Alan Turing Building, University of Manchester.
8. *Steady-state crack propagation in couple stress elastic materials.* 5 May 2012
Elasticity Day, One-Day Workshop on Mathematical Modelling in Solid Mechanics.
Liverpool University.
9. *Fracture and waves propagation in a bimaterial lattice structure.* 25-26 June 2012
The Second Wiener-Hopf Workshop.
Aberystwyth University.
10. *Steady-state propagation of a Mode III crack in couple stress elastic materials.* 28-29 August 2012
Chinese-Italian Bilateral Meeting on Mechanics.
City University of Hong Kong.
11. *Fracture in microstructured materials: continuum and discrete approach.* 22-24 October 2012
The 50th meeting of the Society for Natural Philosophy "New materials and new problems in continuum mechanics".
CISM - DMMS, Department of Mechanics of Materials and Structures, Udine, Italy.
12. *Static and dynamic fracture in materials with microstructure.* 5 September 2014
Department of Aeronautics and Astronautics, School of Engineering, University of Tokyo, Japan.
13. *Modelling, simulation and experimental validation of ceramic forming by powder compaction.* 18 September 2017
Plenary lecture, The Sixth Serbian Ceramic Society Conference, Advanced Ceramics and Application, September 18-20, 2017, Serbian Academy of Sciences and Arts, Belgrade, Serbia
14. *Failure propagation in dissimilar elastic lattices.* 7 June 2019
Recent advances in mechanics of solids and structures, Symposium in honour of Professor Davide Bigoni's 60th birthday, June 6-7, 2019, Trento, Italy.

ORGANIZATION OF INTERNATIONAL CONFERENCES

Member of Scientific/Organizing Committees of the following Conferences:

| | Conference | Date |
|----|--|-----------------|
| 1. | ISDMM09 - <i>4th International Symposium on defect and material mechanics.</i> Trento, Italy. | 6-9 July 2009 |
| 2. | Minisymposium: <i>Multiphysics and multiscale modeling of composites for renewable energy applications.</i> SMART 2013, Torino, Italy. Co-chairman with Marco Paggi (Politecnico di Torino), Laura De Lorenzis (University of Salento). | 24-26 June 2013 |

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| 3. | International conference: CERMODEL 2013 - <i>Modelling and Simulation Meet Innovation in Ceramics Technology</i> . Trento, Italy. | 10-12 July 2013 |
| 4. | Minisymposium: <i>Material simulation for energy applications</i> , 1st International Symposium on Energy Challenges and Mechanics, Aberdeen, UK. Co-chairman with Marco Paggi (IMT Institute for Advanced Studies Lucca), Laura De Lorenzis (Technische Universität Braunschweig), Dr. Tarabay Antoun (Lawrence Livermore National Laboratory). | 8-10 July 2014 |
| 5. | International conference: CERMODEL 2015 - <i>Modelling and Simulation Meet Innovation in Ceramics Technology</i> . Trento, Italy. | 1-3 July 2015 |
| 6. | Minisymposium: <i>Meccanica e Materiali, Modellazione non locale dei materiali</i> . XXII Congresso - Associazione Italiana di Meccanica Teorica e Applicata. Co-organized with Andrea Bacigalupo (IMT Institute for Advanced Studies Lucca), Francesco Dal Corso (Univeristy of Trento) . Genova, Italy | 14-17 September 2015 |
| 6. | International conference: CERMODEL 2017 - <i>Modelling and Simulation Meet Innovation in Ceramics Technology</i> . Trento, Italy. | 26-28 July 2017 |
| 7. | Minisymposium: <i>Meccanica e Materiali, Progressi recenti nella modellazione meccanica dei materiali compositi e delle strutture periodiche</i> . XXIII Congresso - Associazione Italiana di Meccanica Teorica e Applicata. Co-organized with Andrea Bacigalupo (IMT Institute for Advanced Studies Lucca), Francesco Dal Corso (Univeristy of Trento), Maria Laura De Bellis (Department of Engineering for Innovation, University of Salento) . Salerno, Italy. | 4-7 September 2017 |
| 8. | Minisymposium: <i>Dynamic Failure and Phase Transition in Structured Media</i> , 10 th European Solid Mechanics Conference (ESMC18), Bologna, Italy. Co-chairman with Gennady Mishuris (Aberystwyth University), Michael Nieves (Liverpool John Moores University), Bernd Markert (Aachen University). | 2-6 July 2018 |
| 9. | Minisymposium: <i>Recent advances in the mechanical modelling of metamaterials and periodic structures</i> . XXIV Congresso - Associazione Italiana di Meccanica Teorica e Applicata. Co-organized with Andrea Bacigalupo (IMT Institute for Advanced Studies Lucca), Francesco Dal Corso (Univeristy of Trento), Maria Laura De Bellis (Department of Engineering for Innovation, University of Salento) . Roma, Italy. | 15-19 September 2019 |
| 10. | Minisymposium: <i>Dynamic Phenomena and Transition Processes in Structured Media</i> , 11 th European Solid Mechanics Conference (ESMC22), Galway, Ireland. Co-chairman with Gennady Mishuris (Aberystwyth University), Michael Nieves (Liverpool John Moores University), Andrea Piccolroaz (University of Trento), Anastasia Kisil (Manchester University). | 4 - 8 July 2022 |

AWARDS

Ceramic Technology Transfer Day Award (of the ACIMAC and ISTECCNR), 2012 (together with Prof. Bigoni and Dr. F. Dal Corso), for the **best and most innovative research projects**

in the field of ceramics that have applicability in industry.

REVIEW ACTIVITY

- Member of the Scientific Council of *Scientific Letters of Rzeszow University of Technology, Mechanics*, RUTMech, (p-ISSN 0209-2689), (e-ISSN 2300-5211).
- Member of the Editorial Board of Section “Mechanics of Materials”, *Materials*, MDPI (<https://www.mdpi.com/journal/materials>)
- Reviewer for national projects Prin 2012, Futuro in Ricerca 2013.
- Reviewer for the following journals:
 - International Journal of Solids and Structures
 - Journal of Mechanics of Materials and Structures
 - Acta Mechanica Sinica
 - International Journal of Fracture
 - Mechanics of Advanced Materials and Structures
 - Journal of Elasticity
 - Continuum Mechanics and Thermodynamics
 - Computational Mechanics
 - Engineering Fracture Mechanics
 - ASME Journal of Applied Mechanics
 - Mechanics Research Communications
 - Multiscale Modeling and Simulation
 - ASCE Journal of Structural Engineering
 - Proceedings of the Royal Society A
 - The IMA Journal of Applied Mathematics
 - Journal of the Mechanics and Physics of Solids
 - Journal of Mechanical Engineering Science
 - Journal of the European Ceramic Society
 - European Journal of Mechanics – A/Solids
 - Acta Mechanica
 - Wave motion
 - Waves in Random and Complex Media
 - Mathematics and Computers in Simulation
 - Journal of Engineering Mechanics
 - European Journal of Computational Mechanics
 - The Journal of the Acoustical Society of America
 - Philosophical Transactions of the Royal Society A
 - Journal of Materials Engineering and Performance
 - ZAMM - Zeitschrift fuer Angewandte Mathematik und Mechanik
 - Quarterly Journal of Mechanics and Applied Mathematics
 - Frontiers in Materials
 - Heliyon
 - Journal of Pressure Vessel Technology
 - International Journal of Engineering Science
 - Rivista Italiana di Geotecnica
 - Archive of Applied Mechanics
 - Archives of Mechanics
 - Journal of Sandwich Structures and Materials
 - Powder Technology
 - Composites Part C

- Ceramics International
- Advances in Materials Science and Engineering
- Axioms

PAPERS PUBLISHED IN INTERNATIONAL JOURNALS

1. Bigoni, D. and Piccolroaz, A. (2004). Yield criteria for quasibrittle and frictional materials. *International Journal of Solids and Structures* **41**, 2855-2878.
2. Piccolroaz, A., Bigoni, D. and Gajo, A. (2006). An elastoplastic framework for granular materials becoming cohesive through mechanical densification. Part. I - small strain formulation. *European Journal of Mechanics A/Solids* **25**, 334-357.
3. Piccolroaz, A., Bigoni, D. and Gajo, A. (2006). An elastoplastic framework for granular materials becoming cohesive through mechanical densification. Part. II - the formulation of elastoplastic coupling at large strain. *European Journal of Mechanics A/Solids* **25**, 358-369.
4. Piccolroaz, A., Bigoni, D. and Willis, J.R. (2006). A dynamical interpretation of flutter instability in a continuous medium. *Journal of the Mechanics and Physics of Solids* **54**, 2391-2417.
5. Piccolroaz, A., Mishuris, G. and Movchan, A.B. (2007). Evaluation of the Lazarus-Leblond constants in the asymptotic model of the interfacial wavy crack. *Journal of the Mechanics and Physics of Solids* **55**, 1575-1600.
6. Piccolroaz, A., Mishuris, G. and Movchan, A.B. (2009). Symmetric and skew-symmetric weight functions in 2D perturbation models for semi-infinite interfacial cracks. *Journal of the Mechanics and Physics of Solids* **57**, 1657-1682.
7. Piccolroaz, A. and Bigoni, D. (2009). Yield criteria for quasibrittle and frictional materials: a generalization to surfaces with corners. *International Journal of Solids and Structures* **46**, 3587-3596.
8. Piccolroaz, A., Mishuris, G. and Movchan, A.B. (2010). Perturbation of Mode III interfacial cracks. *International Journal of Fracture* **166**, 41-51.
9. Piccolroaz, A., Mishuris, G. and Radi, E. (2012). Mode III interfacial crack in the presence of couple stress elastic materials. *Engineering Fracture Mechanics* **80**, 60-71.
10. Mishuris, G., Movchan, A., Movchan, N. and Piccolroaz, A. (2012). Interaction of an interfacial crack with linear small defects under out-of-plane shear loading. *Computational Materials Science* **52**, 226-230.
11. Piccolroaz, A., Mishuris, G., Movchan, A., and Movchan, N. (2012). Perturbation analysis of Mode III interfacial cracks advancing in a dilute heterogeneous material. *International Journal of Solids and Structures* **49**, 244-255.
12. Piccolroaz, A., Mishuris, G., Movchan, A., and Movchan, N. (2012). Mode III crack propagation in a bimaterial plane driven by a channel of small line defects. *Computational Materials Science* **64**, 239-243.
13. Mishuris, G., Piccolroaz, A., Radi, E. (2012). Steady-state propagation of a Mode III crack in couple stress elastic materials. *International Journal of Engineering Science* **61**, 112-128.
14. Piccolroaz, A. and Mishuris, G. (2013). Integral identities for a semi-infinite interfacial crack in 2D and 3D elasticity. *Journal of Elasticity* **110**, 117-140.
15. Morini, L., Piccolroaz, A., Mishuris, G., Radi, E. (2013). Integral identities for a semi-infinite interfacial crack in anisotropic elastic bimaterials. *International Journal of Solids and Structures* **50**, 1437-1448.
16. Vellender, A., Mishuris, G., Piccolroaz, A. (2013). Perturbation analysis for an

- imperfect interface crack problem using weight function techniques. *International Journal of Solids and Structures* **50**, 4098-4107.
17. Morini, L., Piccolroaz, A., Mishuris, G., Radi, E. (2013). On fracture criteria for a crack propagating in couple stress elastic materials. *International Journal of Engineering Science* **71**, 45-61.
 18. Bosi, F., Mazzocchi, E., Jatro, I., Dal Corso, F., Piccolroaz, A., Deseri, L., Bigoni, D., Cocquio, A., Cova, M., Odorizzi, S. (2013). A collaborative project between Industry and Academia to enhance engineering education at graduate and PhD level in ceramic technology. *International Journal of Engineering Education* **29**, 1-9.
 19. Poltronieri, F., Piccolroaz, A., Bigoni, D., Romero-Baivier, S. (2014). A simple and robust elastoplastic constitutive model for concrete. *Engineering Structures* **60**, 81-84.
 20. Bosi, F., Piccolroaz, A., Gei, M., Dal Corso, F., Cocquio, A., Bigoni, D. (2014). Experimental investigation of the elastoplastic response of aluminum silicate spray dried powder during cold compaction. *Journal of the European Ceramic Society* **34**, 2633-2642.
 21. Stupkiewicz, S., Piccolroaz, A., Bigoni, D. (2014). Elastoplastic coupling to model cold ceramic powder compaction. *Journal of the European Ceramic Society* **34**, 2839-2848.
 22. Penasa, M., Piccolroaz, A., Argani, L., Bigoni, D. (2014). Integration algorithms of elastoplasticity for ceramic powder compaction. *Journal of the European Ceramic Society* **34**, 2775-2788.
 23. Mishuris, G., Piccolroaz, A., Vellender, A. (2014). Boundary integral formulation for cracks at imperfect interfaces. *The Quarterly Journal of Mechanics and Applied Mathematics* **67**, 363-387.
 24. Morini, L., Piccolroaz, A., Mishuris, G. (2014). Remarks on the energy release rate for an antiplane moving crack in couple stress elasticity, *International Journal of Solids and Structures* **51**, 3087-3100.
 25. Gourgiotis, P.A., Piccolroaz, A. (2014). Steady-state propagation of a Mode II crack in couple stress elasticity, *International Journal of Fracture* **188**, 119-145..
 26. Stupkiewicz, S. Denzer, R., Piccolroaz, A., Bigoni, D. (2014). Implicit yield function formulation for granular and rock-like materials. *Computational Mechanics* **54**, 1163-1173.
 27. Stupkiewicz, S., Piccolroaz, A., Bigoni, D. (2014). Finite-strain formulation and FE implementation of a constitutive model for powder compaction. *Computer Methods in Applied Mechanics and Engineering* **283**, 856-880.
 28. Bacigalupo, A., Morini, L., Piccolroaz, A. (2014) Effective elastic properties of planar SOFCs: A non-local dynamic homogenization approach. *International Journal of Hydrogen Energy* **39**, 15017-15030.
 29. Piccolroaz, A., Movchan, A.B. (2014) Dispersion and localization in structured Rayleigh beams. *International Journal of Solids and Structures* **51**, 4452-4461.
 30. Stupkiewicz, S., Piccolroaz, A., Bigoni, D. (2015) Finite-strain formulation and FE implementation of a constitutive model for powder compaction. *Computer Methods in Applied Mechanics and Engineering* **283**, 856-880.
 31. Sonato, M., Piccolroaz, A., Miszuris, W., Mishuris, G. (2015) General transmission conditions for thin elasto-plastic pressure-dependent interphase between dissimilar materials. *International Journal of Solids and Structures* **64-65**, 9-21.
 32. Bordignon, N., Piccolroaz, A., Dal Corso, F., Bigoni, D. (2015) Strain localization and shear band propagation in ductile materials. *Frontiers in Materials* **2:22**.
 33. Morini, L., Piccolroaz, A. (2015) Boundary integral formulation for interfacial cracks

- in thermally diffusive bimetals. *Proceedings of the Royal Society A* **471**:20150284.
34. Bacigalupo, A., Morini, L., Piccolroaz, A. (2016) Multiscale asymptotic homogenization analysis of thermo-diffusive composite materials. *International Journal of Solids and Structures* **85-86**, 15-33.
 35. Papathanasiou, T.K., Dal Corso, F., Piccolroaz, A. (2016) Thermo-mechanical response FEM simulation of ceramic refractories undergoing severe temperature variations. *Journal of the European Ceramic Society* **36**, 2329-2340.
 36. Argani, L.P., Misseroni, D., Piccolroaz, A., Vinco, Z., Capuani, D., Bigoni, D. (2016) Plastically-driven variation of elastic stiffness in green bodies during powder compaction: Part I Experiments and elastoplastic coupling. *Journal of the European Ceramic Society* **36**, 2159-2167.
 37. Argani, L.P., Misseroni, D., Piccolroaz, A., Capuani, D., Bigoni, D. (2016) Plastically-driven variation of elastic stiffness in green bodies during powder compaction. Part II: Micromechanical modelling. *Journal of the European Ceramic Society* **36**, 2169-2174.
 38. Penasa, M., Argani, L., Misseroni, D., Dal Corso, F., Cova, M., Piccolroaz, A. (2016) Computational modelling and experimental validation of industrial forming processes by cold pressing of aluminum silicate powder. *Journal of the European Ceramic Society* **36**, 2351-2362.
 39. Bacigalupo, A., Morini, L., Piccolroaz, A. (2016) Overall thermomechanical properties of layered materials for energy devices applications. *Composite Structures* **157**, 366-385.
 40. Swan, M.S., Piccolroaz, A., Bigoni, D. (2016) Application of tomographic reconstruction techniques for density analysis of green bodies. *Ceramics International* **43**, 749-754.
 41. Wrobel, M., Mishuris, G., Piccolroaz, A. (2016) Energy release rate in hydraulic fracture: Can we neglect an impact of the hydraulically induced shear stress?. *International Journal of Engineering Science* **111**, 28-51.
 42. Piccolroaz, A., Movchan, A.B., Cabras, L. (2017) Dispersion degeneracies and standing modes in flexural waves supported by Rayleigh beam structures. *International Journal of Solids and Structures* **109**, 152-165.
 43. Piccolroaz, A., Movchan, A.B., Cabras, L. (2017) Rotational inertia interface in a dynamic lattice of flexural beams. *International Journal of Solids and Structures* **112**, 43-53.
 44. Cabras, L., Movchan, A.B., Piccolroaz, A. (2017) Floquet-Bloch waves in periodic networks of the Rayleigh beams: honeycomb systems, dispersion degeneracies and structured interfaces. *Mechanics of Solids, A Journal of Russian Academy of Sciences* **5**, 93-108.
 45. Perkowska, M., Piccolroaz, A., Wrobel, M., Mishuris, G. (2017) Redirection of a crack driven by viscous fluid. *International Journal of Engineering Science* **121**, 182-193.
 46. Bigoni, D., Bordignon, N., Piccolroaz, A., Stupkiewicz, S. (2018) Bifurcation of elastic solids with sliding interfaces. *Proceedings of the Royal Society A* **474**:20170681.
 47. G. Bordiga, L. Cabras, D. Bigoni, A. Piccolroaz (2018) Free and forced wave propagation in a Rayleigh-beam grid: flat bands, Dirac cones, and vibration localization vs isotropization, *International Journal of Solids and Structures* **161**, 64-81.
 48. G. Bordiga, L. Cabras, A. Piccolroaz, D. Bigoni (2019) Prestress tuning of negative refraction and wave channeling from flexural sources. *Applied Physics Letters* **114**,

041901.

49. D. Kempen, A. Piccolroaz, D. Bigoni (2019) Thermomechanical modelling of ceramic pressing and subsequent sintering. *International Journal of Mechanical Sciences*, **156**, 146-158.
50. Piccolroaz, A., Gorbushin, N., Mishuris, G., Nieves, M.J. (2020) Dynamic phenomena and crack propagation in dissimilar elastic lattices. *International Journal of Engineering Science*, **149**, 103208.
51. Bordiga, G., Cabras, L., Piccolroaz, A., Bigoni, D. (2021) Dynamics of prestressed elastic lattices: Homogenization, instabilities, and strain localization. *Journal of the Mechanics and Physics of Solids*, **146**, 104198.
52. M. Wrobel, A. Piccolroaz, P. Papanastasiou, G. Mishuris (2021) Redirection of a crack driven by viscous fluid taking into account plastic effects in the process zone, *Geomechanics for Energy and the Environment*, **26**, 100147.
53. Piccolroaz, A., Peck, D., Wrobel, M., Mishuris, G. (2021) Energy release rate, the crack closure integral and admissible singular fields in fracture mechanics. *International Journal of Engineering Science*, **164**, 103487.
54. Bordiga, G., Piccolroaz, A., Bigoni, D. (2021) A way to hypo-elastic artificial materials without a strain potential and displaying flutter instability. *Journal of the Mechanics and Physics of Solids*, **158**, 104665.

CHAPTERS OF BOOKS

1. Piccolroaz, A., Gajo, A. and Bigoni, D. (2002). *Forming of advanced ceramics. In: Selected mechanical problems in structural ceramics*. Bigoni, D., Ed., Polish Academy of Sciences, Warsaw, Poland.
2. Mishuris, G., Miszuris, W., Ochsner, A. and Piccolroaz, A. (2013). *Transmission conditions for thin elasto-plastic pressure-dependent interphases*. In: *Plasticity of Pressure-Sensitive Materials*. Altenbach, H., Ochsner, A., Eds., Springer-Verlag, Berlin.

CONFERENCE PROCEEDINGS

1. Bigoni, D. and Piccolroaz, A. (2003). A new yield function for geomaterials. *Constitutive modelling and analysis of boundary value problems in geotechnical engineering*. Napoli, Italy, 22-24 April 2003.
2. Bigoni, D., Piccolroaz, A. and Willis, J.R. (2005). Flutter instability in elastoplastic solids with nonassociative flow rule: a dynamical interpretation. *XVII AIMETA National Congress*. Firenze, Italy, 12-15 September 2005.
3. Piccolroaz, A., Mishuris, G. and Movchan, A.B. (2010). Perturbation problems for interfacial cracks. *Advances and Trends in Structural Engineering, Mechanics and Computation*. Cape Town, South Africa, 6-8 September 2010.
4. Piccolroaz, A., Morini, L., Mishuris, G. and Gourgiotis, P.A. (2013). Loading profile effects on dynamic crack propagation in couple stress elastic materials. *10th HSTAM International Congress on Mechanics*. Chania, Crete, Greece, 25-27 May 2013.
5. Morini, L., Piccolroaz, A. and Mishuris, G. (2013). Dynamic energy release rate in couple-stress elasticity. *J. Phys.: Conf. Ser.* 451 012014. *International Symposium on Dynamic Deformation and Fracture of Advanced Materials 2013*. Loughborough University, UK, 9-11 September 2013.
6. Vellender A., Mishuris, G., Piccolroaz, A. (2013). Application of imperfect interface

weight function techniques for modelling of glued structures containing cracks and small defects. J. Phys.: Conf. Ser. 451 012013. *International Symposium on Dynamic Deformation and Fracture of Advanced Materials 2013*. Loughborough University, UK, 9-11 September 2013.

7. Bordignon, N., Piccolroaz, A. (2017) Cohesive modelling of thin elasto-plastic pressure-dependent adhesive joints. *21st International Conference on Composite Materials, ICCM-21*. Qujiang International Convention Center, Xian, China, 20-25 August 2017.

CONFERENCE PARTICIPATION

1. Piccolroaz, A., Gajo, A. and Bigoni, D. (2002). *Forming of advanced ceramics. VI convegno AIMAT*. Modena, September 8-11, 2002.
2. Bigoni, D. and Piccolroaz, A. (2003). A new yield function for geomaterials. *Constitutive modelling and analysis of boundary value problems in geotechnical engineering*. Napoli, Italy, April 22-24, 2003.
3. Piccolroaz, A., Bigoni, D. and Willis, J.R. (2006). A dynamical interpretation of flutter instability in non-associative elastoplastic solids. *British Applied Mathematics Colloquium*. Keele, UK, April 24-27, 2006.
4. Piccolroaz, A., Mishuris, G. and Movchan, A. (2006). Evaluation of SIFs for 3D interfacial crack with a wavy crack front. *Multiphysics 2006*. Maribor, Slovenia, December 14-15, 2006.
5. Piccolroaz, A., Mishuris, G. and Movchan, A.B. (2007). A singularly perturbed problem for three-dimensional interfacial cracks. *XVIII AIMETA National Congress*. Brescia, Italy, September 11-14, 2007.
6. Piccolroaz, A., Mishuris, G. and Movchan, A.B. (2008). Interfacial crack loaded by asymmetric forces. *GMA 2008*. Genova, Italy, February 29 - March 1, 2008.
7. Piccolroaz, A., Bigoni, D., Cocquio, A., Deseri, L., Gajo, A. and Galuppi, L. (2008). Constitutive modeling and simulation of cold forming of ceramic powders. *8th World Congress on Computational Mechanics and 5th European Congress on Computational Methods in Applied Sciences and Engineering*. Venezia, Italy, June 30 - July 4, 2008.
8. Piccolroaz, A., Mishuris, G., and Movchan, A.B. (2009). Unsymmetrical loading of interfacial cracks. *7th Euromech Solids Mechanics Conference*. Lisbon, Portugal, September 7-11, 2009.
9. Piccolroaz, A. and Bigoni, D. (2009). Non-smooth yield criteria. *XIX AIMETA National Congress*. Ancona, Italy, September 14-17, 2009.
10. Piccolroaz, A., Mishuris, G. and Movchan, A.B. (2010). Symmetric and skew-symmetric weight functions for the analysis of perturbed interfacial crack problems. *IV European Conference on Computational Mechanics*. Paris, France, May 16-21, 2010.
11. Piccolroaz, A., Mishuris, G. and Movchan, A.B. (2010). Perturbation problems for interfacial cracks. *The IV International Conference on Structural Engineering, Mechanics and Computation*. Cape Town, South Africa, September 6-8, 2010.
12. Piccolroaz, A., Mishuris, G., Movchan, A.B., Movchan, N. (2011). Asymptotic solutions for cracks in heterogeneous media. *WIMCS Gregynog Mathematics Colloquium 2011*. Gregynog, Wales, UK, May 23-25, 2011.
13. Piccolroaz, A., Mishuris, G., Movchan, A.B., Movchan, N. (2011). Mode III crack advancing in a bimaterial plane with finite array of defects. *International Workshop on*


Computational Mechanics of Materials 2011. University of Limerick, Ireland, August 21-24, 2011.

14. Piccolroaz, A., Mishuris, G. (2012). Integral identities for a semi-infinite interfacial crack in 2D and 3D elasticity. *IUTAM 2012 Symposium - Fracture Phenomena in Nature and Technology*. University of Brescia, Italy, July 1-5, 2012.
15. Piccolroaz, A., Mishuris, G. (2012). Integral identities for a semi-infinite interfacial crack in 2D and 3D elasticity. *The 23rd International Congress of Theoretical and Applied Mechanics*. Beijing, China, August 19-24, 2012.
16. Piccolroaz, A., Morini, L., Gourgiotis, P.A., Mishuris, G. (2013). Loading profile effects on dynamic crack propagation in couple stress elastic materials. *10th HSTAM 2013 International Congress on Mechanics*. Chania, Crete, May 25-27, 2013.
17. Piccolroaz, A., Morini, L., Mishuris, G., Radi, E. (2013). Integral identities for a semi-infinite interfacial crack in anisotropic elastic bimetals. *The Third International Conference on Computational Modeling of Fracture and Failure of Materials and Structures*. Prague, Czech Republic, June 5-7, 2013.
18. Piccolroaz, A., Morini, L., Gourgiotis, P. (2013). Incorporating intrinsic length-scales in fracture toughness of microstructured ceramics. *13th International Conference of the European Ceramic Society*. Limoges, France, June 23-27, 2013.
19. Piccolroaz, A., Morini, L., Gourgiotis, P. (2013). Fracture modelling of microstructured ceramics. *CERMODEL 2013 - Modelling and Simulation Meet Innovation in Ceramics Technology*. Trento, Italy, July 10-12, 2013.
20. Piccolroaz, A., Movchan, A. (2014) Analogy between structural elements and materials with microstructure. *Marie Skłodowska-Curie Conference: ESOF 2014*. Copenhagen, Denmark, June 19-20, 2014.
21. Piccolroaz, A. (2014) Incorporating intrinsic length-scales in fracture toughness of microstructured ceramics. *Advanced Problems in Mechanics 2014*. St. Petersburg, Russia, June 30 - July 5, 2014.
22. Morini, L., Piccolroaz, A. (2014) Modelling of interface cracks in thermally diffusive media with applications to solid oxide fuel cell devices. *1st International Symposium on Energy Challenges and Mechanics*. Aberdeen, Scotland, July 8-10, 2014.
23. Piccolroaz, A., Stupkiewicz, S., Swan, S. (2014) Modelling and simulation of cold ceramic powder compaction. *The 2014 World Congress on Advances in Civil, Environmental, and Materials Research (ACEM14)*. Busan, Korea, August 24-28, 2014.
24. Piccolroaz, A., Mishuris, G. (2014) Dynamic fracture in bimaterial lattices. *3th International Conference on Fracture Fatigue and Wear (FFW 2014)*. Kitakyushu, Japan, September 1-3, 2014.
25. Piccolroaz, A. (2015) Fracture in ceramics with microstructure. Accounting for size-effects. *Advanced Problems in the Mechanical Modelling of Ceramic Materials, Energy Materials Nanotechnology Meeting on Ceramics (EMN 2015)*. Orlando, Florida, January 26-29, 2015.
26. Piccolroaz, A., Stupkiewicz, S., Denzer, R., Bigoni, D. (2015) Implicit yield function formulation for ceramic materials. *1st Pan American Congress on Computational Mechanics (PANACM 2015)*. Buenos Aires, Argentina, April 27-29, 2015.
27. Piccolroaz, A., Stupkiewicz, S., Denzer, R., Bigoni, D. (2015) Implicit yield function formulation for green bodies. *CERMODEL2015 Congress on Modelling and Simulation meet Innovation in Ceramics Technology*. Trento, July 1-3, 2015.
28. Piccolroaz, A., Movchan, A. (2015) Dispersion and localization in structured Rayleigh beams. *Meccanica e Materiali, Modellazione non locale dei materiali, XXII Congresso*

- *Associazione Italiana di Meccanica Teorica e Applicata*. Genova, September 14-17, 2015.

29. Piccolroaz, A., Swan, M.S. (2016) Experiment and Simulation of the Formation of Green Bodies from Alumina Powder Mechanical Behavior and Performance of Ceramics and Composites, *International Conference and Exposition on Advanced Ceramics and Composites*, Daytona Beach, Florida, USA, January 24-29, 2016.
30. Piccolroaz, A., Mishuris, G. (2016) General transmission conditions and cohesive modelling of thin elasto-plastic pressure-dependent adhesive joints. *WCCM XII The 12th World Congress on Computational Mechanics*. Seoul, Korea, July 24-29, 2016.
31. Piccolroaz, A., Movchan, A.B. (2016) Dispersion, localization and degeneracies in flexural waves supported by rayleigh beam structures. *ICTAM 2016 24th International Congress of Theoretical and Applied Mechanics*. Montreal, Canada, August 21-26, 2016.
32. Bordignon, N., Piccolroaz, A. (2017) Cohesive modelling of thin elasto-plastic pressure-dependent adhesive joints. *21st International Conference on Composite Materials, ICCM-21*. Qujiang International Convention Center, Xian, China, 20-25 August 2017.
33. Piccolroaz, A., Movchan, A., Cabras, L. (2017) Structured interface in a dynamic lattice of flexural beams. *Meccanica e Materiali, Progressi recenti nella modellazione meccanica dei materiali compositi e delle strutture periodiche. XXIII Congresso - Associazione Italiana di Meccanica Teorica e Applicata*. Salerno, September 4-7, 2017.
34. Piccolroaz, A. (2019) Experiment and simulation of the formation of green bodies from alumina powder. *16th International Conference of the European Ceramic Society*. Torino, Italy, June 16-20, 2019.
35. Piccolroaz, A. (2021) Dynamics of prestressed elastic lattices: Homogenization, instabilities, and strain localization, *Engineered Materials For Sustainable Structures EM4SS'21*. Modena, Italy, April 26-28, 2021.
36. Piccolroaz, A., Bordiga, G., Cabras, L., Bigoni, D. (2021) Incremental constitutive tensors and strain localization for prestressed elastic lattices. *ICTAM 2020+1 25th International Congress of Theoretical and Applied Mechanics*. Milano, Italy, August 23-28, 2021.

Trento, 5/8/2022



CURRICULUM VITAE

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Place of birth Modena, Italy
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EDUCATION

University of Trento Trento, Italy

2009 Ph.D. in Engineering of Civil and Mechanical Structural Systems, March 26, 2009.

2005 Full-Honors M. Sc. Degree in Civil Engineering, November 2, 2005.

PROFESSIONAL EXPERIENCES

2017 Italian National Scientific Habilitation "Full Professor in Solid and Structural Mechanics (ICAR/08)" – "Professore Ordinario di Scienza delle Costruzioni"

2015 Italian National Scientific Habilitation "Associate Professor in Solid and Structural Mechanics (ICAR/08)" – "Professore Associato di Scienza delle Costruzioni"

University of Trento Trento, Italy

2019 - ... Associate Professor in Solid and Structural Mechanics (ICAR/08), Department of Civil, Environmental and Mechanical Engineering, (October 1, 2019 – present).

2016 - 2019 Assistant Professor (RTDB) in Solid and Structural Mechanics (ICAR/08), Department of Civil, Environmental and Mechanical Engineering, (October 1, 2016 – September 30, 2019).

2010 - 2016 Assistant Professor (RTD) in Solid and Structural Mechanics (ICAR/08), Department of Civil, Environmental and Mechanical Engineering, (December 23, 2010 – September 30, 2016).

- University of Brescia** Brescia, Italy
- 2010 Research Associate, Department of Civil Engineering (October 1, 2010 – December 22, 2010). Host: Prof. L. Bardella.
- University of Trento** Trento, Italy
- 2009 - 2010 Research Associate, Department of Mechanical and Structural Engineering, (November 24, 2009 – September 23, 2010). Host: Proff. D. Bigoni and L. Deseri.
- University of Cambridge** Cambridge, U.K.
- 2008 - 2009 Research Associate, Department of Applied Mathematics and Theoretical Physics (November 1, 2008 – October 31, 2009). Host: Prof. J.R. Willis.
- University of Liverpool** Liverpool, U.K.
- 2007 Visiting Student, Department of Mathematical Sciences (August 2007). Host: Prof. A.B. Movchan.

AWARDS

- 2022 Research on the failure mechanisms in ductile damaged materials with numerous rigid line inclusions featured on the cover of the 2022 volumes of the International Journal of Solids and Structures
- 2019 2018 DICAM Teaching Excellence Award, Department of Civil, Environmental and Mechanical Engineering of the University of Trento, Italy
- 2017 Research on the mechanics of soft robot arms featured on the cover of the Proceedings of the Royal Society A (473, 2198, Feb 2017)
- 2015 Research on the torsional locomotion featured on the cover of the Proceedings of the Royal Society A (471 – 2175, Mar 2015)
- 2014 Research on the elastica arm scale featured on the cover of the Proceedings of the Royal Society A (470 – 2170, Oct 2014)
- 2013 AIMETA Junior Prize in Solid and Structural Mechanics, XXI AIMETA Congress in Torino, Italy.
- 2012 Ceramic TTD (Technology Transfer Day) award (together with Prof. Bigoni and Dr. A. Piccolroaz), Tecnargilla2012 in Rimini, Italy.
- 2009 Award for outstanding Thesis, University of Trento, Italy.

RESEARCH GRANTS

- University of Trento** Trento, Italy
- 2020-2024 Research Unit Coordinator in the European Project H2020-MSCA-2020-ITN: *LIGHTEN - Ultralight membrane structures towards a sustainable environment*. Total funding 1.4 MEuro (funding to the research unit: 245 kEuro).
- 2013-2017 Coordinator of the European Project FP7-PEOPLE-2013-IAPP: *HOTBRICKS - Mechanics of refractory materials at high-temperature for advanced industrial technologies*. Total funding 1.1 MEuro (funding to the research unit: 678 kEuro).

CURRENT RESEARCH PROJECTS

University of Trento

Trento, Italy

- 2020-2024 European Project H2020-MSCA-2020-ITN: *LIGHTEN - Ultralight membrane structures towards a sustainable environment*. Role: Unit coordinator and Researcher
- 2019-2022 European Project H2020-MSCA-ITN-2018: *INSPIRE – Innovative Ground Interface Concepts for Structure Protection*, coordinator: Prof. O.S. Bursi. Role: Researcher

PAST RESEARCH PROJECTS

University of Trento

Trento, Italy

- 2014-2019 European Project FP7-PEOPLE-IDEAS-ERC-2013-AdG: *INSTABILITIES - Instabilities and nonlocal multiscale modelling of materials*, coordinator: Prof. D. Bigoni. Role: Researcher
- 2013-2017 European Project FP7-PEOPLE-2013-IAPP: *HOTBRICKS - Mechanics of refractory materials at high-temperature for advanced industrial technologies*, coordinator: Dr. F. Dal Corso. Role: Coordinator and Seconded Marie Curie Fellow
- 2011-2015 European Project FP7-PEOPLE-2011-IAPP: *INTERCER2 - Modelling and optimal design of ceramic structures with defects and imperfect interfaces*, coordinator: Prof. D. Bigoni. Role: Seconded Marie Curie Fellow
- 2005-2008 Italian National Research Project MIUR-PRIN 2005 n. 2005085973: *Interface Resistance and Damage in Materials and Structural Systems*, coordinator: Prof. A. Corigliano. Role: Researcher
- 2007-2010 Italian National Research Project MIUR-PRIN 2007 n. 2007YZ3B24: *Multi-scale Problems with Complex Interactions in Structural Engineering*, coordinator: Prof. A. Corigliano. Role: Researcher
- 2008-2011 Italian National Research Project MIUR-PRIN 2008: *Multi-scale Modelling, Numerical and Experimental Analysis of Complex Materials and Structures with Novel Applications*, coordinator: Prof. C. Davini.

University of Cambridge

Cambridge, U.K.

- 2005-2009 EPSRC grant ref. EP/C52392X/1: *Interfacial Strengthening of Metallic and Ceramic Alloys: a Modelling Framework for Bridging Length Scales*, Principal Investigator: Prof. N.A. Fleck.

CONFERENCE ORGANIZATION

- Co-organizer of the mini-symposium "Recent advances in the mechanical modelling of metamaterials and periodic structures" within the XXV AIMETA Conference, September 4-9, 2022, Palermo (Italy).
- Co-organizer of the mini-symposium "Mechanics and Physics of Structures" within the ESMC2022 - 11th European Solids Mechanics Conference, July 4-8, 2022, Galway (Ireland).
- Co-organizer of the workshop "State of the art and challenges in the modelling and design of ultralightweight structures", May 12, 2022, online.

- Co-organizer of the thematic session "Recent advances in the mechanical modelling of metamaterials and periodic structures" within the XXIV AIMETA Conference, September 15-19, 2019, Rome (Italy).
- Co-organizer and member of the Scientific and Organizing Committees of the Congress RAMSS2019 – Recent Advances in the Mechanics of Solids and Structures, June 6-7, 2019, Trento (Italy).
- Co-organizer of the mini-symposium "Mechanics and Physics of Solids and Structures" within the ESMC2018 - 10th European Solids Mechanics Conference, July 2-6, 2018, Bologna (Italy).
- Co-organizer of the workshop "State of the art and challenges in the dynamics and stability of structures", January 26, 2018, Trento.
- Co-organizer of the specialistic session "Recent advances in the mechanical modelling of composite materials and periodic structures" within the XXIII AIMETA Conference, September 4-7, 2017, Salerno (Italy).
- Member of the Scientific and Organizing Committees of the Congress CERMODEL2017 - Modelling and Simulation meet Innovation in Ceramics Technology, July 26-28, 2017, Trento (Italy).
- Special session " Modelling of microstructured materials and metamaterials" within GIMC-GMA 2016 Conference, June 27-29, 2016, Lucca, Italy (Co-organizer of the special session).
- "Modelling of refractory materials and ceramics, with a view to technological applications", Trento (Italy). April 22, 2016 (Workshop chair)
- Specialistic session "Non-local modelling of materials" within the XXII AIMETA Conference, September 14-17, 2015, Genova, Italy (Co-organizer of the specialistic session).
- FFW2015 - Fracture, Fatigue and Wear, Ghent (Belgium). August 27-28, 2015 (Member of the International Scientific Committee).
- CERMODEL 2015 – Modelling and simulation meet innovation in ceramics technology. July, 1-3, 2015 Trento, Italy (Member of Organizing Committee and of Scientific Committee)
- "State of the art and challenges in thermal and mechanical modelling of ceramic materials", Trento (Italy). March 20, 2015 (Workshop chair)
- Member of the International Organizing Committee of EMN MEETING on CERAMICS - Energy Materials Nanotechnology and Chair of the workshop Advanced Problems in the Mechanical Modelling of Ceramic Materials, Orlando (USA). January 26-29, 2015.
- CERMODEL 2013 – Modelling and simulation meet innovation in ceramics technology. July, 10-12, 2013 Trento, Italy (Member of Organizing Committee and of Scientific Committee)

SUPERVISION OF STUDENTS AND POSTDOCTORAL FELLOWS

- **11 Bachelor and Master Thesis in Civil Engineering**
- **Current PhDs**
 - M. Nardin (expected PhD defense on Autumn, 2022)
 - P. Koutsogiannakis (expected PhD defense on Spring, 2023)
 - N. Hima (expected PhD defense on Spring, 2023)
 - M. Amato (expected PhD defense on Autumn, 2023)
 - M.H. Nejabatmeimandi (expected PhD defense on Spring, 2024)

- **Former PhDs**

- M. Bacca (PhD 2013, currently Assistant Professor at University of British Columbia, Canada)
- D. Misseroni (PhD 2013, currently Assistant Professor at University of Trento, Italy)
- Federico Bosi (PhD 2015, currently Associate Professor at University College London, UK)
- Summer Shahzad (PhD 2016, currently Structural Engineer for Bridges and Special Structures at Ramboll, Espoo, Finland)
- C. Armanini (PhD 2018, currently post-doc at Khalifa University, United Arab Emirates)
- G. Rizzi (PhD 2019, currently post-doc at INSA Lyon, France)
- A. Cazzolli (PhD 2020, currently Structural Engineer)

- **Former PostDocs**

- T. Papathanasiou (currently Assistant Professor at Brunel University London, United Kingdom),
- T. Zisis (currently Assistant Professor at National Technical University of Athens, Greece)

TEACHING EXPERIENCES

| | University of Trento | Trento, Italy |
|-------------|--|---------------|
| 5/2022 | Organizer and lecturer of the 2nd Training School - Computational mechanics and data-driven design of materials and structures of the ITN Marie Curie project "LIGHTEN", University of Trento, Italy | |
| 9/2021 | Lecturer of 1st Training School - Characterisation and modelling of structural membranes of the ITN Marie Curie project "LIGHTEN", online | |
| 12/2020 | Organizer and lecturer of the 2nd Training School of the ITN Marie Curie project "INSPIRE" (in english) | |
| 2019 - ... | Reference person for the Master Course "Instability of Structures" (60h), School of Civil Engineering | |
| 2019 - ... | Lecturer of "Instability of discrete structural systems" (30h) within the Master Course "Instability of Structures" (60h), School of Civil Engineering (in italian) | |
| 12/2017 | Lecturer of the PhD Course "Nonlinear mechanics of structures" (10h), PhD School of Civil, Environmental, and Mechanical Engineering (in english) | |
| 2015 - ... | Reference person for the Master Course "Theory and Dynamics of Structures" (120h), School of Civil Engineering (in italian) | |
| 2018 - ... | Lecturer of "Theory of Plasticity" (30h) within the Master Course "Theory and Dynamics of Structures" (120h), School of Civil Engineering (in italian) | |
| 2009 - ... | Lecturer of "Dynamics of Structures" (60h) within the Master Course "Theory and Dynamics of Structures" (120h), School of Civil Engineering (in italian) | |
| 2013 - 2017 | Lecturer of "Theory of Plasticity" (20h) within the Master Course "Theory and Dynamics of Structures" (120h), School of Civil Engineering (in italian) | |

2006 - 2009 Teaching Assistant of Undergraduate courses "Structural Mechanics", "Theory of Elasticity", "Strength of Materials", School of Engineering (in italian)

TEACHING EVALUATION BY STUDENTS (LAST FIVE YEARS)

Alla domanda "E' complessivamente soddisfatto di come è stato svolto il corso?" le risposte positive (più sì che no + decisamente sì) sono state:

- in riferimento al Corso "Teoria e Dinamica delle Strutture"

- 98% dei frequentanti (46 studenti) nell'A.A. 2015-2016
- 97% dei frequentanti (66 studenti) nell'A.A. 2016-2017
- 94% dei frequentanti (67 studenti) nell'A.A. 2017-2018
- 96% dei frequentanti (51 studenti) nell'A.A. 2018-2019
- 100% dei frequentanti (47 studenti) nell'A.A. 2019-2020
- 100% dei frequentanti (34 studenti) nell'A.A. 2020-2021
- 96% dei frequentanti (25 studenti) nell'A.A. 202-2022

- in riferimento al Corso "Instabilità delle Strutture"

- 100% dei frequentanti (10 studenti) nell'A.A. 2019-2020
- 100% dei frequentanti (24 studenti) nell'A.A. 2020-2021
- 100% dei frequentanti (7 studenti) nell'A.A. 2019-2020

EXAMINATION BOARDS

University of Trento

Trento, Italy

- 2019 - ... Evaluator for the Master Course "Instability of Structures" (60h), School of Civil Engineering
- 2009 - ... Evaluator for the Master Course "Theory and Dynamics of Structures" (120h), School of Civil Engineering
- 2006 - 2012 Evaluator for Undergraduate courses "Structural Mechanics", "Theory of Elasticity", "Strength of Materials", School of Engineering
- 2009 - ... Member of Thesis evaluation committees for the Bachelor and Master degree in Civil Engineering
- 2009 - ... Member of the committees for PhD students annual evaluation in Civil, Environmental and Mechanical Engineering

INSTITUTIONAL DUTIES

University of Trento

Trento, Italy

- 2020 Member of the Committee for the habilitation for the Engineer profession (Esame di Stato per l'abilitazione all'esercizio della professione di Ingegnere)
- 2019 - ... Member of the Executive Board of PhD School in Civil, Environmental and Mechanical Engineering
- 2019 - ... Delegate of the "Orientation activities" for the Department of Civil, Environmental and Mechanical Engineering
- 2014 - ... Member of the "Orienta" Committee of the School of Civil Engineering

2011 - ... Reference person of the "TopSport" program for the School of Civil Engineering

OUTREACH ACTIVITIES

- 2021 Exhibition at the "Researcher's night" (Trento - September 24, 2021)
- 2018 Exhibition at the "Researcher's night" (Trento - September 28, 2018)
- 2017 Exhibition at the "Researcher's night" (Trento - September 29, 2017)
- 2017 Exhibition at PLACEMENT DAY 2017 (Trento, Italy, March 3, 2017)
- 2015 Outreach presentation at the "Researcher's night" (Trento - September 25, 2015)
- 2014 Exhibition at ENGRES2014 - Marie Skłodowska-Curie Actions 2014 Conference (Trento, Italy, November 18-19, 2014)
- 2014 Exhibition at TECNARGILLA - 24th International Exhibition of Technologies and Supplies for the Ceramic and Brick Industries (Rimini, Italy, September 22-26, 2014)
- 2012 Exhibition at the "Researcher's night" (Trento - September 28, 2012)
- 2011 Exhibition at the "Researcher's night" (Trento - September 23, 2011)

EDITORIAL ACTIVITY

- 2021 - ... Associate Editor of "Frontiers in Mechanical Engineering - Solid Mechanics section"
- 2019 Co-Editor with J.R. Willis of the Special Issue of the Journal of the Mechanics and Physics of Solids dedicated to 60th Anniversary of Professor Davide Bigoni

PUBLICATIONS LIST

Ph.D. Thesis

Cracks, shear bands and lamellar inclusions in homogeneously prestressed materials. Advisor: Prof. D. Bigoni. University of Trento (2009).

Chapter of Books

1. D. Bigoni, F. Bosi, F. Dal Corso, D. Misseroni (2022)
Configurational Forces on Elastic Structures.
In *50+ Years of AIMETA: A Journey through Theoretical and Applied Mechanics in Italy*, Springer.
2. D. Bigoni, M. Amato, and F. Dal Corso (2021)
Configurational forces in penetration processes.
In *Solid (Bio)mechanics: Challenges of the Next Decade*, Springer.
3. Bigoni, D., Bosi, F., Misseroni, D., Dal Corso, F., Noselli, G. (2015)
New phenomena in nonlinear elastic structures: from tensile buckling to configurational forces.
In *CISM Lecture Notes No. 562 "Extremely Deformable Structures" (Ch. 2)*, edited by: D. Bigoni, Springer, ISBN 978-3-7091-1876-4, doi 10.1007/978-3-7091-1877-1

Papers published in international journals

Research articles

1. Giarola, D., Dal Corso, F., Capuani, D., Bigoni, D. (2022). Interactions between multiple rigid lamellae in a ductile metal matrix: shear band magnification and attenuation in localization patterns. *Journal of the Mechanics and Physics of Solids*, in press. doi: <https://doi.org/10.1016/j.jmps.2022.104925>
2. Hima, N., Bigoni, D., Dal Corso, F. (2022). Buckling vs unilateral constraint for a multistable metamaterial element. *Philosophical Transactions of the Royal Society A*, in press. doi: <https://doi.org/10.1098/rsta.2022.0021>
3. Goudarzi, M., Dal Corso, F., Bigoni, D., Simone, A. (2021). Dispersion of rigid line inclusions as stiffeners and shear band instability triggers. *International Journal of Solids and Structures*, 210–211, 255-272. doi: <https://doi.org/10.1016/j.ijsolstr.2020.11.006>
4. Cazzolli, A., Dal Corso, F., Bigoni, D. (2021). Flutter instability and Ziegler destabilization paradox for elastic rods subject to non-holonomic constraints. *Journal of Applied Mechanics ASME*, 88(3): 031003. doi: <https://doi.org/10.1115/1.4047132>
5. Cazzolli, A., Dal Corso, F., Bigoni, D. (2020). Non-holonomic constraints inducing flutter instability in structures under conservative loadings. *Journal of the Mechanics and Physics of Solids*, 138, 103919. doi: <https://doi.org/10.1016/j.jmps.2020.103919>
6. Cazzolli, A., Misseroni, D., Dal Corso, F. (2020). Elastica catastrophe machine: theory, design and experiments. *Journal of the Mechanics and Physics of Solids*, 136, 103735. doi: <https://doi.org/10.1016/j.jmps.2019.103735>
7. Rizzi, G., Dal Corso, F., Veber, D., Bigoni, D. (2019). Identification of second-gradient elastic materials from planar hexagonal lattices. Part I: Analytical derivation of equivalent constitutive tensors. *International Journal of Solids and Structures*, 176-177, 1-18. doi: <https://doi.org/10.1016/j.ijsolstr.2019.07.008>
8. Rizzi, G., Dal Corso, F., Veber, D., Bigoni, D. (2019). Identification of second-gradient elastic materials from planar hexagonal lattices. Part II: Mechanical characteristics and model validation. *International Journal of Solids and Structures*, 176-177, 19-35. doi: <https://doi.org/10.1016/j.ijsolstr.2019.07.009>
9. Dal Corso, F., Tallarico, D., Movchan, N., Movchan, A., Bigoni, D. (2019). Nested Bloch waves in elastic structures with configurational forces. *Philosophical Transactions of the Royal Society A*, 377: 20190101. doi: <https://doi.org/10.1098/rsta.2019.0101>
10. Armanini, C., Dal Corso, F., Misseroni, D., Bigoni, D. (2019). Configurational forces and nonlinear structural dynamics. *Journal of the Mechanics and Physics of Solids*, 130, 82-100. doi: <https://doi.org/10.1016/j.jmps.2019.05.009>

11. Cazzolli, A., Dal Corso, F. (2019).
Snapping of elastic strips with controlled ends.
International Journal of Solids and Structures, 162, 285-303.
doi: <http://dx.doi.org/10.1016/j.ijsolstr.2018.12.005>
12. Shahzad, S., Dal Corso, F. (2019).
Torsion of elastic solids with sparse voids parallel to the twist axis.
Mathematics and Mechanics of Solids, 24 (7), 2126-2153.
doi: <https://doi.org/10.1177/1081286518815306>
13. Bacigalupo, A., Paggi, M., Dal Corso, F., Bigoni, D. (2018).
Identification of higher-order continua equivalent to a Cauchy elastic composite.
Mechanics Research Communications, 93, 11-22.
doi: <http://dx.doi.org/10.1016/j.mechrescom.2017.07.002>
14. Dal Corso, F., Misseroni, D., Pugno, N.M., Movchan, A.B., Movchan, N.V., Bigoni, D. (2017).
Serpentine locomotion through elastic energy release.
Journal of the Royal Society Interface, 14: 20170055.
doi: <http://dx.doi.org/10.1098/rsif.2017.0055>
15. Armanini, C., Dal Corso, F., Misseroni, D., Bigoni, D. (2017).
From the elastica compass to the elastica catapult: an essay on the mechanics of soft robot arm [**Cover paper**].
Proceedings of the Royal Society A, 473: 20160870.
doi: <http://dx.doi.org/10.1098/rspa.2016.0870>
16. Shahzad, S., Dal Corso, F., Bigoni, D. (2017).
Hypocycloidal inclusions in nonuniform out-of-plane elasticity: stress singularity vs stress reduction.
Journal of Elasticity, 126 (2), 215-229.
doi: <http://dx.doi.org/10.1007/s10659-016-9590-5>
17. Bosi, F., Misseroni, D., Dal Corso, F., Neukirch, S., Bigoni, D. (2016).
Asymptotic self-restabilization of a continuous elastic structure.
Physical Review E, 94 (6), 063005.
doi: <https://dx.doi.org/10.1103/PhysRevE.94.063005>
18. Papathanasiou, T.K., Gougiotis, P.A., Dal Corso, F. (2016).
Finite element simulation of a gradient elastic half-space subjected to thermal shock on the boundary.
Applied Mathematical Modelling, 40 (23–24), 10181-10198.
doi: <http://dx.doi.org/10.1016/j.apm.2016.07.023>
19. Dal Corso, F., Shahzad, S., Bigoni, D. (2016).
Isotoxal star-shaped polygonal voids and rigid inclusions in nonuniform antiplane shear fields. Part I: Formulation and full-field solution.
International Journal of Solids and Structures, 85-86, 67-75.
doi: <http://dx.doi.org/10.1016/j.ijsolstr.2016.01.027>
20. Dal Corso, F., Shahzad, S., Bigoni, D. (2016).
Isotoxal star-shaped polygonal voids and rigid inclusions in nonuniform antiplane shear fields. Part II: Singularities, annihilation and invisibility.
International Journal of Solids and Structures, 85-86, 76-88.
doi: <http://dx.doi.org/10.1016/j.ijsolstr.2016.01.026>
21. Papathanasiou, T.K., Dal Corso, F., Piccolroaz, A. (2016).
Thermo-mechanical response FEM simulation of ceramic refractories undergoing severe temperature variations.

- Journal of the European Ceramic Society, 36 (9), 2329-2340.
doi: <http://dx.doi.org/10.1016/j.jeurceramsoc.2016.01.022>
22. Penasa, M., Argani, L., Misseroni, D., Dal Corso, F., Cova, M., Piccolroaz, A. (2016).
Computational modelling and experimental validation of industrial forming processes by cold pressing of aluminum silicate powder.
Journal of the European Ceramic Society, 36(9), 2351-2362.
doi: <http://dx.doi.org/10.1016/j.jeurceramsoc.2015.12.040>
23. Bosi, F., Misseroni, D., Dal Corso, F. and Bigoni, D. (2015).
Self-encapsulation, or the 'dripping' of an elastic rod [Open access]
Proceedings of the Royal Society A, 471: 20150195.
doi: <http://dx.doi.org/10.1098/rspa.2015.0195>
24. Bosi, F., Misseroni, D., Dal Corso, F. and Bigoni, D. (2015).
Development of configurational forces during the injection of an elastic rod
Extreme Mechanics Letters, 471 83-88.
doi: <http://dx.doi.org/10.1016/j.eml.2015.04.007>
25. Bordignon, N., Piccolroaz, A., Dal Corso, F., Bigoni, D. (2015).
Strain localization and shear banding in ductile materials [Open access]
Frontiers in Materials, 2.
doi: <http://dx.doi.org/10.3389/fmats.2015.00022>
26. Zisis, Th., Gourgiotis, P.A., Dal Corso, F. (2015).
A contact problem in couple stress thermoelasticity: The indentation by a hot flat punch.
International Journal of Solids and Structures, 63, 226-239.
doi: <http://dx.doi.org/10.1016/j.ijsolstr.2015.03.002>
27. Bigoni, D., Dal Corso, F., Bosi, F. and Misseroni, D. (2015).
Eshelby-like forces acting on elastic structures: theoretical and experimental proof
Mechanics of Materials, 80, 368–374.
doi: <http://dx.doi.org/10.1016/j.mechmat.2013.10.009>
28. Bigoni, D., Dal Corso, F., Misseroni, D. and Bosi, F. (2014).
Torsional locomotion [**Cover Paper**]
Proceedings of the Royal Society A, 470, 20140599.
doi: <http://dx.doi.org/10.1098/rspa.2014.0599>
29. Bosi, F., Misseroni, D., Dal Corso, F. and Bigoni, D. (2014).
An elastica arm scale [**Cover Paper**]
Proceedings of the Royal Society A, 470, 20140232.
doi: <http://dx.doi.org/10.1098/rspa.2014.0232>
30. Misseroni, D., Dal Corso, F., Shahzad, S. and Bigoni, D. (2014).
Stress concentration near stiff inclusions: validation of rigid inclusion model and boundary layers by means of photoelasticity
Engineering Fracture Mechanics, 121-122, 87-97.
doi: <http://dx.doi.org/10.1016/j.engfracmech.2014.03.004>
31. Bigoni, D., Bosi, F., Dal Corso, F. and Misseroni, D. (2014).
Instability of a penetrating blade

- Journal of the Mechanics and Physics of Solids, 64, 411-425.
doi: <http://dx.doi.org/10.1016/j.jmps.2013.12.008>
32. Bosi, F., Piccolroaz, A., Gei, M., Dal Corso, F., Cocquio, A. and Bigoni, D. (2014).
Experimental investigation of the elastoplastic response of aluminum silicate spray dried powder during cold compaction
Journal of the European Ceramic Society, 34, 2633–2642.
doi: <http://dx.doi.org/10.1016/j.jeurceramsoc.2013.11.037>
33. Bacca, M., Dal Corso, F. Veber, D. and Bigoni, D. (2013).
Anisotropic effective higher-order response of heterogeneous Cauchy elastic materials
Mechanics Research Communications, 54, 63-71.
doi: <http://dx.doi.org/10.1016/j.mechrescom.2013.09.008>
34. Bacca, M., Bigoni, D., Dal Corso, F. and Veber, D. (2013).
Mindlin second-gradient elastic properties from dilute two-phase Cauchy-elastic composites
Part I: Closed form expression for the effective higher-order constitutive tensor
International Journal of Solids and Structures, 50, 4010-4019.
doi: <http://dx.doi.org/10.1016/j.ijsolstr.2013.08.014>
35. Bacca, M., Bigoni, D., Dal Corso, F. and Veber, D. (2013).
Mindlin second-gradient elastic properties from dilute two-phase Cauchy-elastic composites
Part II: Higher-order constitutive properties and application cases
International Journal of Solids and Structures, 50, 4020-4029.
doi: <http://dx.doi.org/10.1016/j.ijsolstr.2013.08.016>
36. Dal Corso, F. and Deseri, L. (2013).
Residual stresses in random elastic composites: nonlocal micromechanics-based models and first estimates of the representative volume element size
Meccanica, 48 (8), 1901-1923.
doi: <http://dx.doi.org/10.1007/s11012-013-9713-z>
37. Dal Corso, F. and Willis, J.R. (2011).
Stability of strain gradient plastic materials
Journal of the Mechanics and Physics of Solids, 59, 1251-1267.
doi: <http://dx.doi.org/10.1016/j.jmps.2011.01.014>
38. Dal Corso, F. and Bigoni, D. (2010).
Growth of slip surfaces and line inclusions along shear bands in a softening material
International Journal of Fracture, 166, 225-237.
doi: <http://dx.doi.org/10.1007/s10704-010-9534-1>
39. Noselli, G., Dal Corso, F. and Bigoni, D. (2010).
The stress intensity near a stiffener disclosed by photoelasticity
International Journal of Fracture, 166, 91-103.
doi: <http://dx.doi.org/10.1007/s10704-010-9502-9>
40. Dal Corso, F. and Bigoni, D. (2009).
The interactions between shear bands and rigid lamellar inclusions in a ductile metal matrix
Proceedings of the Royal Society A, 465, 143-163.
doi: <http://dx.doi.org/10.1098/rspa.2008.0242>
41. Bigoni, D. and Dal Corso, F. (2008).
The unrestrainable growth of a shear band in a prestressed material
Proceedings of the Royal Society A, 464, 2365-2390.

doi: <http://dx.doi.org/10.1098/rspa.2008.0029>

42. Dal Corso, F., Bigoni, D. and Gei, M. (2008).
The stress concentration near a rigid line inclusion in a prestressed, elastic material
Part I. Full field solution and asymptotics.
Journal of the Mechanics and Physics of Solids, 56, 815-838.
doi: <http://dx.doi.org/10.1016/j.jmps.2007.07.002>
43. Bigoni, D., Dal Corso, F. and Gei, M. (2008).
The stress concentration near a rigid line inclusion in a prestressed, elastic material.
Part II. Implications on shear band nucleation, growth and energy release rate
Journal of the Mechanics and Physics of Solids, 56, 839-857.
doi: <http://dx.doi.org/10.1016/j.jmps.2007.07.003>

Teaching and Educational articles

1. Misseroni, D., Bigoni, D., Dal Corso, F. (2014)
A model for teaching elastic frames
Journal of Materials Education, 36 (5-6), 169-174.
2. Bosi, F., Mazzocchi, E., Jatro, I., Dal Corso, F., Piccolroaz, A., Deseri, L., Bigoni, D., Cocquio, A., Cova, M., Odorizzi, S. (2013)
A collaborative project between Industry and Academia to enhance engineering education at graduate and PhD level in ceramic technology
International Journal of Engineering Education, 29, 1-9.
3. Bigoni, D., Dal Corso, F., Misseroni D. and Tommasini, M. (2012).
A teaching model for truss structures
European Journal of Physics, 33, 1179–1186.
doi: <http://dx.doi.org/10.1088/0143-0807/33/5/1179>

Conference Proceedings

- i. Dal Corso, F., Bigoni, D., Noselli, G., Misseroni, D., and Shahzad, S. (2014).
Rigid inclusions: stress singularity, inclusion neutrality and shear bands.
Proceedings of the 3rd International Conference on Fracture, Fatigue and Wear, Kitakyushu, Japan, September 1-3, 2014.
- ii. Dal Corso, F., Bigoni, D. and Gei, M. (2007).
Brittle failure near a rigid line inclusion in a prestressed, elastic material.
International Symposium on Recent Advances in Mechanics, Dynamic Systems and Probability Theory - MDP 2007, Mondello (PA, Italy). June 3-6, 2007.
- iii. Dal Corso, F., Bigoni, D. and Gei, M. (2007).
Growth and energy release rate for a rigid line inclusion in a prestressed, elastic material.
XVIII Congresso Nazionale dell'AIMETA, Brescia (BS, Italy). September 11-14, 2007.

Invited talks

- I. "Buckling, restabilization and snapping of extremely deformable structures".
Online Seminar, Department of Civil Engineering, University of Thessaly, Volos (GR), December 1, 2021.
- II. "Snapping and motion of elastic structures subject to movable and configurational constraints".
Mechanics and Materials Seminar, Jacobs School of Engineering, UCSD, Los Angeles - CA (USA), February 10, 2020.

- III. "Soft structures with movable and configurational constraints".
Samueli School Of Engineering, UCLA, Los Angeles - CA (USA), February 7, 2020.
- IV. "Snapping and dancing soft structures".
Mechanical and Civil Engineering Seminar, Caltech, Pasadena - CA (USA), February 6, 2020.
- V. "Elastica Catastrophe machine and configurational forces in dynamics".
Department of Mechanical Engineering, UC Berkeley, Berkeley - CA (USA), February 4, 2020.
- VI. "Kinematics, motion and snapping mechanisms of structures subject to movable constraints".
SMSD Seminar, MIT, Cambridge - MA (USA), August 1, 2019.
- VII. "Soft structures and movable constraints".
School of Engineering & Applied Science, Yale University, New Haven - CT (USA), July 31, 2019.
- VIII. "Buckling, self-restabilization, dynamics and resonance of elastic structures with configurational constraints".
School of Engineering and Applied Sciences, Harvard University, Cambridge - MA (USA), July 29, 2019.
- IX. "Configurational mechanics of elastic rods".
College of Civil Engineering and Architecture - Zhejiang University, Hangzhou (China), March 27, 2019.
- X. "Equilibrium and motion of elastic structures towards soft robotics applications".
Key Laboratory of Soft Machines and Smart Devices - Zhejiang University, Hangzhou (China), March 26, 2019.
- XI. "Unstable equilibrium, (self-re)stability and motion of structures subject to configurational constraints".
Dept. of Aeronautics and Astronautics, Fudan University, Shanghai (China), March 25, 2019.
- XII. "Motion from energy release of elastic structures subject to movable and configurational constraints".
School of Mechanical Engineering, Shanghai Jiao Tong University, Shanghai (China), March 22, 2019.
- XIII. "Snapping and sliding rods".
Digital Manufacturing and Design Centre, Singapore University of Technology and Design, Singapore, February 20, 2018.
- XIV. "Snap-back mechanisms and locomotion from structures subject to movable and configurational constraints".
Department of Engineering Science, The University of Auckland, Auckland (New Zealand), February 9, 2018.
- XV. "Configurational forces and structural stability".
School of Computer and Mathematical Sciences, Auckland University of Technology, Auckland (New Zealand), February 8, 2018.
- XVI. "Structures subject to movable and configurational constraints, with applications to soft robotics and locomotion".
GALCIT (Graduate Aerospace Laboratories of the California Institute of Technology), Caltech, Pasadena (USA), January 27, 2017.

- XVII. "The elastica compass and the elastica catapult".
Department of Civil Engineering, University of Salerno, Salerno (Italy), October 31, 2016.
- XXVIII. "Configurational forces in structures: elastica arm scale and torsional locomotion".
Soft Robotics Week, April 25-30, 2016, Livorno, Italy.
- XIX. "Nonlinear modelling of refractories undergoing thermal shocks".
Department of Mechanical Engineering, University of South Florida, Tampa (Florida - USA), January 21, 2016.
- XX. "Configurational mechanics: Elastica arm scale and torsional locomotion" and "Thermal effects in the contact of flat punch with a couple-stress material".
Department of Systems Innovation, The University of Tokyo, Tokyo (Japan), September 9, 2014.
- XXI. "Stiff inclusions in composite materials: singularities and shear bands nucleation" and "Non-local effects in a thermo-elastic contact problem".
Department of Materials Science and Technology, Tokyo University of Science, Tokyo (Japan), September 8, 2014.
- XXII. "Stress concentration and localization of deformation in reinforced materials" and "The thermo-elastic problem of a flat punch indenting a microstructured medium".
Department of Aeronautics and Astronautics of the School of Engineering, University of Tokyo, Tokyo (Japan), September 5, 2014.
- XXIII. "Shear bands modelling" and "Instabilities during contact at high-temperature".
Department of Adaptive Machine Systems, Osaka University, Osaka (Japan), August 29, 2014.
- XXIV. "Recent contributions in the mechanisms of localization of deformation".
AIMETA2013 (XXI Congresso Associazione Italiana di Meccanica Teorica e Applicata), Turin (Italy), September 19, 2013.
- XXV. "Identification of non-local parameters by energetic equivalence with heterogeneous Cauchy-elastic materials".
National Technical University of Athens, Athens (Greece), September 5, 2013.
- XXVI. Recent contributions in generalized continuum mechanics.
School of Physical Sciences, Jawaharlal Nehru University, New Delhi (India), February 15, 2013.
- XXVII. Localization in plastic materials in presence of energetic and dissipative strain gradient terms.
Institute of Engineering Mechanics, Beijing Jaotong University, Beijing (China), August 17, 2012.
- XXVIII. Cracks, shear bands and lamellar inclusions in homogeneously prestressed materials.
2nd International Workshop of Young Researchers on the Mechanics of Materials and Structures, SISSA, Trieste (Italy), October 19-21, 2009.
- XXIX. Softening and instability in strain-gradient plasticity.
Institute of Mathematics and Physics, Aberystwyth University, Aberystwyth (UK), August 18, 2009.

Conference Participation (as presenting author)

- a. Dal Corso, F., Koutsogiannakis, P., Misseroni, D., Papathanasiou, T., Bigoni D. (2021)
"Oscillatory configurational forces"

ELADYN-NLS-2021: Advances in ELAstoDYNamics, NonLinear Mechanics and Stability of architected materials, November 18-19, 2021 - Créteil, France.

- b. Dal Corso, F., Giarola, D., Capuani, D., Bigoni, D. (2021)
"Shear band patterns arising from rigid line inclusion distributions via boundary element technique"
Euromech Colloquium 626 "Mechanics of high-contrast elastic composites", September 6-8, 2021 - Keele, UK.
- c. Dal Corso, F., Koutsogiannakis, P., Misseroni, D., Papathanasiou, T., Bigoni D. (2021)
"Oscillating configurational constraints and nonlinear dynamics of extremely deformable structures"
ICTAM2020+1 - 25th International Congress of Theoretical and Applied Mechanics, August 22-27, 2021 – Milan (Italy).
- d. Dal Corso, F., Koutsogiannakis, P., Misseroni, D., Papathanasiou, T., Bigoni D. (2021)
"Elastica catastrophe machine for teaching snap instabilities in structural mechanics"
ICTAM2020+1 - 25th International Congress of Theoretical and Applied Mechanics, August 22-27, 2021 – Milan (Italy).
- e. Dal Corso, F., Koutsogiannakis, P., Misseroni, D., Papathanasiou, T., Bigoni D. (2021)
"Elastica and oscillatory configurational forces"
APM2021 - XLIX International Conference "Advanced Problems in Mechanics", June 21-25, 2021 – St. Petersburg (Russia).
- f. Dal Corso, F. (2021)
"Elastica catastrophe machine"
EM4SS'21 – Engineered Materials for Sustainable Structures, April 26-28, 2021, Modena (Italy).
- g. Dal Corso, F. (2019)
"Moving boundary value problems in the dynamics of structures"
Factorisation of matrix functions: New techniques and applications, August 12-16, 2019, Isaac Newton Institute for Mathematical Sciences - University of Cambridge, Cambridge (United Kingdom).
- h. Dal Corso, F., Armanini, C., Misseroni, D., Bigoni, D. (2019)
"Configurational forces and nonlinear dynamics of structures"
CMMM2019 – 2nd International Conference on Modeling in Mechanics and Materials, March 29-31, 2019, Suzhou (China)
- i. Dal Corso, F., Armanini, C., Misseroni, D., Bigoni, D. (2019)
"The sudden release of a rod constrained by a sliding sleeve"
GAMM2019 - 90th Annual Meeting of the International Association of Applied Mathematics and Mechanics, February 18-22, 2019, Wien (Austria)
- j. Dal Corso, F., Armanini, C., Misseroni, D., Bigoni, D. (2018)
"A Nonlinear Mechanical Model for Soft Robot Arms"
WCCM2018 - 13th World Congress in Computational Mechanics, July 22-27, 2018, New York (USA)
- k. Dal Corso, F., Armanini, C., Misseroni, D., Bigoni, D. (2018)
"The dynamics of structures with configurational forces"
10th European Solid Mechanics Conference, July 2-6, 2018, Bologna (Italy)
- l. Dal Corso, F., Armanini, C., Misseroni, D., Bigoni, D. (2018)
"Structures subject to movable boundary conditions and some related intriguing behaviour"
IUTAM Symposium on Recent advances in moving boundary problems in mechanics, February 12-15, 2018, Christchurch (New Zealand).

- m. Dal Corso, F., Shahzad, S., Bigoni, D. (2017)
"Star-shaped inclusions: From stress singularity raisers to stress annihilators"
ICSID2017 - International Conference on Structural Integrity and Durability 2017 - Fatigue and Fracture at all Scales, Dubrovnik (Croatia). August 15-18, 2017.
- n. Dal Corso F., Armanini C., Misseroni D., Bigoni D. (2017)
"Nonlinear modelling of the snap-back instability of a rotating rod"
IMACXXXV - Structural Dynamics Challenges in Next Generation Aerospace Systems, Orange County (Los Angeles - USA). January 30 - February 2, 2017.
- o. Dal Corso F., Shahzad S., Bigoni D. (2016)
"Stress annihilation and neutrality for star-shaped voids and rigid inclusions"
MIMS2016 - International Workshop on Multiscale Innovative Materials and Structures, Cetara (Salerno - Italy). October 28-30, 2016.
- p. Dal Corso F., Papathanasiou T.K. (2016)
"Thermal shock of refractories undergoing severe temperature changes"
ICACC16 - 40th International Conference and Expo on Advanced Ceramics and Composites, Daytona (Florida - USA). January 24-29, 2016.
- q. Dal Corso F., Bigoni D., Misseroni D., Bosi F. (2015)
"Elastic Arm Scale and Torsional Locomotion"
ESMC2015 - 9th European Solid Mechanics Conference, Madrid (Spain). July 6-10, 2015.
- r. Dal Corso F., Zisis, Th., Gourgiotis, P. (2015)
"Contact regimes during heat conduction through a microstructured solid"
State of the art and challenges in thermal and mechanical modelling of ceramic materials, Trento (Italy). March 20, 2015.
- s. Dal Corso F., Zisis, Th., Gourgiotis, P. (2015)
"A thermomechanical contact problem for microstructured solids"
EMN Ceramics Meeting, Orlando (Florida, USA). January 26-29, 2015.
- t. Dal Corso F., Bigoni D., Noselli, G., Misseroni D., Shahzad, S. (2014).
"Rigid inclusions: stress singularity, inclusion neutrality and shear bands"
FFW2014 - 3rd International Conference on Fracture Fatigue and Wear, Kitakyushu (Japan). September 1-3, 2014.
- u. Dal Corso F., Bigoni D. (2014)
"Shear bands in reinforced materials".
ACEM2014, The 2014 World Congress on Advances in Civil, Environmental, and Materials Research, Busan (South Korea). August 24-28, 2014.
- v. Dal Corso, F., Bacca, M. (2014)
"Multiscale modelling of ceramic composites".
International workshop "Multiscale modelling in ceramics" within the International Congress APM 2014 Advanced Problems in Mechanics, St Petersburg (Russia). June 30 - July 5, 2014.
- w. Dal Corso, F., Bigoni, D., Bosi, F., Misseroni, D. (2014)
"Elastically deformable scale through configurational forces".
XX Convegno Nazionale di Meccanica Computazionale - VII Riunione del Gruppo Materiali AIMETA, Cassino (Italy). June 11-13, 2014.
- x. Zisis, T., Dal Corso F. (2014)
"A contact problem in couple-stress thermoelasticity".

- XX Convegno Nazionale di Meccanica Computazionale - VII Riunione del Gruppo Materiali AIMETA*, Cassino (Italy). June 11-13, 2014.
- y. Dal Corso, F., Bigoni, D., Bacca, M., Veber, D. (2013)
"Evaluation of internal lengthscales from homogenization".
XXI Congresso Associazione Italiana di Meccanica Teorica e Applicata, Turin (Italy). September 17-20, 2013.
- z. Dal Corso, F., Bigoni, D., Bacca, M., Veber, D. (2013)
"Effective second gradient elastic (Mindlin) materials".
IUTAM2013 SYMPOSIUM, Multiscale modeling and uncertainty quantification of materials and structures, Santorini Island (Greece). September 9-11, 2013.
- aa. Dal Corso, F., Bigoni, D., Bacca, M., Veber, D. (2013)
"Higher-order response of ceramic composites".
CERMODEL 2013, Modelling and Simulation meet innovation in ceramics technology, Trento (Italy). July 10-12, 2013.
- bb. Dal Corso, F., Bacca, M., Bigoni, D. and Veber, D. (2013)
Estimation of non-local parameters arising from composite materials homogenization.
ICRACM 2013 - 4th Int. Conf. on Recent Advances in Composite Materials, Panaji, Goa (India). February 18-21, 2013.
- cc. Dal Corso, F., Bigoni, D., Bosi, F. and Misseroni, D. (2012).
Critical load of restabilization.
BMW 2012 - Chinese-Italian Bilateral Meeting on Mechanics, Hong Kong. August 28-29, 2012.
- dd. Dal Corso, F., Bigoni, D., Bosi, F. and Misseroni, D. (2012)
Stable trivial configuration of elastic systems after bifurcation.
ICTAM 2012 - 23rd International Congress on Theoretical and Applied Mechanics, Beijing (China). August 19-24, 2012.
- ee. Dal Corso, F., Bigoni, D., Bosi, F. and Misseroni, D. (2012)
Trivial Path after Bifurcation: from Unstable back to Stable Configuration.
ESMC 2012 - 8th European Solid Mechanics Conference, Graz (Austria). July 9-13, 2012.
- ff. Dal Corso, F., Bigoni, D., Bosi, F. and Misseroni, D. (2012)
Self restabilization after buckling.
GMA 2012 - VI Riunione del Gruppo Materiali dell'AIMETA, Lucca (Italy). April 12-13, 2012.
- gg. Dal Corso, F. and Willis, J.R. (2011)
Stability of strain-gradient plastic materials.
XX Congresso Associazione Italiana di Meccanica Teorica e Applicata, Bologna (Italy). September 12-15, 2011.
- hh. Dal Corso, F. and Deseri, L. (2011)
Non-local constitutive equations for prestressed elastic random composites.
V Riunione del Gruppo Materiali AIMETA (GMA2011), Udine (Italy), February 23-25, 2011.
- ii. Dal Corso, F. and Willis, J.R. (2010)
On the stability of the strain-gradient plastic materials.
XVIII Convegno Italiano di Meccanica Computazionale, Siracusa (Italy), September 22-24, 2010.
- jj. Dal Corso, F. and Willis, J.R. (2009)
Localisation in strain-gradient plasticity.
4th International Symposium on Defect and Material Mechanics, Trento (Italy), July 6-9, 2009.

- kk. Bigoni, D., Dal Corso, F. and Gei, M. (2008)
Rigid line inclusion in incremental elasticity.
Il Riunione del Gruppo Materiali AIMETA (GMA08), Genova (Italy). February 29-March 1, 2008.
- ll. Dal Corso, F., Bigoni, D. and Gei, M. (2007)
Brittle failure near a rigid line inclusion in a prestressed, elastic material.
International Symposium on Recent Advances in Mechanics, Dynamical Systems and Probability Theory, Palermo (Italy). June 3-6, 2007.
- mm. Dal Corso, F., Bigoni, D. and Gei, M. (2007)
The stress concentration near a rigid line inclusion in a prestressed material, with implications on shear bands.
International Conference on Thermo-Mechanical Modeling of Solids, Paris (France). July 9-12, 2007.
- nn. Dal Corso, F., Bigoni, D. and Gei, M. (2007)
Growth and energy release rate for a rigid line inclusion in a prestressed, elastic material.
XVIII Congresso Associazione Italiana di Meccanica Teorica e Applicata, Brescia (Italy). September 11-14, 2007.

REFeree ACTIVITY

Examiner of the PhD thesis

- Daniel O'Shea (2019) Hyperelasticity for Soft Biological Tissues and Fibre-Reinforced Composites using Orthotropic Fourth-Order Tensors, University of New South Wales (Australia)

Referee for the following research funding:

- Referee for ISF (Israel Science Foundation) Personal Research Grants (2022);
- Referee for FRIAS (Freiburg Institute for Advanced Studies) COFUND fellowship (2018);

Reviewer for the following journals (**12** till May 2022; **25** in 2021; **24** in 2020; **24** in 2019; **16** in 2018; **32** in 2017; **17** in 2016):

- Applied Sciences;
- Acta Biomaterialia;
- AIP Conference Proceedings;
- Applied Mathematical Modelling;
- Archives of Mechanics;
- Composites Part B: Engineering;
- Construction & Building Materials;
- Continuum Mechanics and Thermodynamics;
- Engineering Fracture Mechanics;
- Engineering Structures;
- European Journal of Physics;
- European Journal of Mechanics - A/Solids;
- Experimental Mechanics;
- Extreme Mechanics Letters;
- Frontiers in Materials;
- Frontiers in Mechanical Engineering;
- IEEE Robotics and Automation Letters;
- International Journal of Mechanical Sciences;
- International Journal of Non-Linear Mechanics;

- International Journal of Solids and Structures;
- International Journal for Numerical Methods in Engineering;
- Journal of Applied Mechanics - ASME;
- Journal of Elasticity;
- Journal of Engineering Mechanics;
- Journal of Mechanical Engineering Science;
- Journal of Mechanics of Materials and Structures;
- Journal of Physics A;
- Journal of Pressure Vessel Technology - ASME;
- Journal of the European Ceramic Society;
- Journal of the Mechanics and Physics of Solids;
- Mathematical Problems in Engineering;
- Mathematics and Mechanics of Solids;
- Materials & Design;
- Meccanica;
- Mechanics of Materials;
- Mechanics Research Communications;
- Nonlinear dynamics;
- Philosophical Transactions of the Royal Society A;
- Proceedings of the Royal Society A;
- Quarterly Journal of Mechanics and Applied Mathematics;
- SAGE Open;
- Scientific Reports;
- SIAM Journal on Applied Mathematics;
- The European Physical Journal Plus;
- Theoretical and Applied Fracture Mechanics;
- Thin-Walled Structures;
- ZAMM - Journal of Applied Mathematics and Mechanics.

Trento, 4 Agosto 2022

Francesco Dal Corso

CV ROBERTA SPRINGHETTI

EDUCATION

1991 Civil Engineering degree (Award. Hons.), University of Trento, Italy with the thesis "*Analisi teorica e sperimentale di piastre perforate in regime elasto-plastico ed allo stato limite*" (in Italian, supervisors: Prof. R. Contro and Prof. M. Rovati, University of Trento; Prof. G. Guerlement, Faculté Polytechnique de Mons, Belgium).

1991 Maitrise Européenne, Faculté Polytechnique de Mons, Belgium.

1998 Materials and Structural Engineering PhD, - University of Trento, Italy with the thesis "*Una versione variazionale "alla Galerkin" del "Boundary Contour Method" per problemi di elasticità lineare in due dimensioni*" (in Italian, supervisor: Prof. G. Novati, University of Trento).

ACADEMIC AND INTERNATIONAL EXPERIENCE

1994 – now: Assistant Professor in Solid and Structural Mechanics (ICAR/08) - University of Trento, Italy.

2001 Visiting Faculty at the University of Wisconsin, Madison (Wisconsin, USA).

2009 – 2018: Responsible for the international relations of the Civil Engineering School of the University of Trento.

2016, 2017 Visiting Faculty at the Saint Petersburg State University (Russia).

TEACHING EXPERIENCES

1994 – now: Graduate and undergraduate courses in Solid Mechanics, Computational mechanics, Fracture Mechanics, Elastoplasticity, Masonry structures.

1994 – now: Graduate and undergraduate theses on the same topics.

RESEARCH PROJECTS

2014 – 2018: Unit coordinator of IRSES-GA-2013-610547 TAMER Trans-Atlantic Micromechanics Evolving Research "Materials containing inhomogeneities of diverse physical properties, shapes and orientations".

REVIEWER ACTIVITY

for the following journals:

Mechanics Research Communications,

Journal of Structural Engineering,

Actuators,

Archives of Mechanics,

Journal of Mechanics of Materials and Structures,

Journal of Elasticity.

5 SELECTED PUBLICATIONS

- Gei M., Colonnelli S., Springhetti R., *The role of electrostriction on the stability of dielectric elastomer actuators*, International Journal of Solids and Structures, Vol 51, 3–4, pp. 848-860, (2014).
- Springhetti R., Bortot E., deBotton G., Gei M., *Optimal energy-harvesting cycles for load-driven dielectric generators inplane strain*, IMA Journal of Applied Mathematics, 79(5), (2014).
- Springhetti R., Seliutina N.S., *Viscoelastic modeling of articular cartilage under impact loading*, Meccanica, vol. 53, pp. 519–530, (2018).
- Kushch V., Springhetti R., Shmegeera S. *Effective permittivity of composite elastomer with account of electric conductivity of phases and imperfect interface*, International Journal of Engineering Science 123, pp. 51-61, (2018).
- Springhetti R., Rossetto G., Bigoni D., *Buckling of Thin-Walled Cylinders from Three Dimensional Nonlinear Elasticity*, Journal of Elasticity, <https://doi.org/10.1007/s10659-022-09905-4> (published online 20 July 2022).