MASSIMILIANO GEI

FULL PROFESSOR - SOLID MECHANICS/STRUCTURES

MARCH 2021

Department of Engineering and Architecture, University of Trieste
Room C9_5.28, Email massimiliano.gei@dia.units.it

EDUCATION

2001 PhD in Materials and Structural Engineering (2/2001), University of Trento, Trento, Italy.
1997 Full-Honours MSc Degree in Civil Engineering (3/1997), University of Bologna, Bologna, Italy.

APPOINTMENTS

UNIVERSITY OF TRIESTE TRIESTE, ITALY
2020- Professor of Solid Mechanics/Structures, Dept. of Engineering and Architecture.

CARDIFF UNIVERSITY CARDIFF, UK
2015-2020 Professor of Solid Mechanics/Structures, ACE Department, School of Engineering.

UNIVERSITY OF TRENTO TRENTO, ITALY
2005-2020 Assistant Professor, Associate Professor of Solid and Structural Mechanics, School of Engineering & Dept. of Civil, Environmental and Mechanical Engineering.

ROLES COVERED AT CARDIFF UNIVERSITY

2016-2019 Member of the Senior REF Committee, leader of the REF5b Environment submission of the UoA Engineering.
2018-2020 Leader of the Multiphysics Mechanics cross-cutting research theme.
2017-2019 Member of the Management Board of the Department ACE-Civil Engineering.
2016-2019 Leader of the Applied and Computational Mechanics group (Line manager of 9 academic staff).
2017-2018 Acting Director, Mechanics, Materials and Advanced Manufacturing research theme.
2016-2017 Deputy Head, Mechanics, Materials and Advanced Manufacturing research theme.

ROLES COVERED AT THE UNIVERSITY OF TRENTO

2013-2015 Head of the Civil Engineering Board of Studies, DICAM.
2009, 2012 Leader of teams of engineers for the building damage assessment after L'Aquila (2009) and Emilia (2012) earthquakes, Italian Civil Protection Agency.
2005-2020 Member of the Committee of the Doctoral School in Structural Engineering.

VISITING SCHOLARSHIPS / PROFESSORSHIPS

Tufts University (2018, 2019), Harvard University (2018), University of Brescia (2017, 2019), KU Leuven (2016), University College London (2015), Queen Mary University of London (2013, 2014), TU-Dortmund (2012), Ben Gurion University (2007, 2009, 2011), University of Liverpool (2006, 2007, 2008, 2009, 2011), Polish Academy of Sciences (2004), Graz University of Technology (2000), University of Glasgow (1999).

INVITED SEMINARS (SELECTED)

In addition to the list above: University of Oxford (2018), Swansea University (2017), University of Glasgow (2017), University of Liege (2016), Keele University (2016), Aberystwyth University (2015), University of Pavia (2015), University of Modena and Reggio Emilia (2012), Georgia Tech (2012), University of California at Santa Barbara (2012).

TEN+1 SELECTED PAPERS

Gei, M., Chen, Z., Bosi, F. and Morini, L. (2020). Phononic canonical quasicrystalline waveguides. *Applied Physics Letters* **116**, 241903.

Noorikalkhoran, O. and Gei, M. (2020). Evaluation of neutron radiation damage on zircaloy fuel clad of nuclear power plants: a study based on PKA and dpa calculations. *Progress in Nuclear Energy* **118**, 103079.

Morini, L., Eyzat, Y. and Gei, M. (2019). Negative refraction in quasicrystalline multilayered metamaterials. *Journal of the Mechanics and Physics of Solids* **124**, 282-298.

Morini, L., Tetik, Z.G., Shmuel, G. and Gei, M. (2019). On the universality of frequency spectrum and band-gap optimisation of quasicrystalline-generated phononic structures. *Philosophical Transactions of the Royal Society A* **378***,* 20190240.

Colquitt, D., Brun, M., Gei, M., Movchan, A.B., Movchan, N.V. and Jones, I.S. (2014). Transformation elastodynamics and cloaking for flexural waves. *Journal of the Mechanics and Physics of Solids* **72**, 131-143.

Bertoldi, K. and Gei, M. (2011). Instabilities in multilayered soft dielectrics. *Journal of the Mechanics and Physics of Solids* **59**, 18-42.

Gei, M., Roccabianca, S. and Bacca, M. (2011). Controlling band gaps in electroactive polymer-based structures. *IEEE-ASME Transactions on Mechatronics* **16**, 102-107.

Gei, M. (2010). Wave propagation in quasiperiodic structures: stop/pass band distribution and effects of prestress. *International Journal of Solids and Structures* **47**, 3067-3075.

Gei, M., Movchan, A.B. and Bigoni, D. (2009). Band-gap shift and defect-induced annihilation in prestressed elastic structures. *Journal of Applied Physics* **105**, 063507.

Bigoni, D., Gei, M. and Movchan, A.B. (2008). Dynamics of a prestressed, stiff layer on an elastic half space: filtering and band gap characteristics of periodic structural models derived from long-wave asymptotics. *Journal of the Mechanics and Physics of Solids* **56**, 2494-2520*.*

Gei, M., Genna, F. and Bigoni, D. (2002). An interface model for the periodontal ligament. *Journal of Biomechanical Engineering* **124**, 538-546.

RESEARCH GRANTS – P.I. / COORDINATION

CARDIFF UNIVERSITY CARDIFF, UK

2018 P.I. of the ASTUTE 2020 project *ANSYRETRO- Innovative anchoring system for retrofitting heritage buildings* with CINTEC International.

2018 P.I. of the EPSRC Doctoral Technical Partnership scholarship of Mr. Pietro Liguori: *Electrostrictive soft materials*.

2018 P.I. of the Royal Academy of Engineering Distinguished Visiting Fellowship of Prof. Luis Dorfmann: *Bioactuation in Soft Robotics*.

2018 P.I. of the Global Challenge Research Fund Fellowship of Dr. Cigdem Avci-Karatas.

2017 Supervisor of the MSCA-COFUND fellowship of Dr. O. Noori-Kalkhoran.

2016 P.I. of the ASTUTE 2020 project *ANCHOR-SYS-Manufacturing Process Development for Innovative Anchoring and Reinforcement System*, with CINTEC International.

2016 Supervisor of the MSCA-COFUND fellowship of Dr. L. Morini.

UNIVERSITY OF TRENTO TRENTO, ITALY

2015 Coordinator of project awarded by Civil Protection Department-Autonomous Province of Trento: *Development of 'Advanced Level-0' technical forms for the data collection according to the provisions of Italian Decree OPCM no. 3274/2003*.

2014 Coordinator of the EU-FP7 Marie Curie-IAPP project no. 286110: *INTERCER2-Modelling and optimal design of ceramic structures with defects and imperfect interfaces*.

2013 Visiting professor grant (1 month), University of Trento.

2011 Local coordinator, Cost Action MP 1003 awarded by European Union (FP7): *ESNAM-European scientific network for artificial muscles*, coordinator: Dr. F. Carpi (Queen Mary University, UK).

2010 Responsible of a visiting Ph.D. scholarship, Erasmus Mundus University II Program funded by European Union.

2009 Responsible of the Young Investigator Project awarded by GNFM (Mathematical Physics National Group): *Controlling band gaps in electroactive composites*.

2008 Responsible of the Young Investigator Project awarded by GNFM (Mathematical Physics National Group): *Modelling of soft dielectric composites*.

UNIVERSITY OF MODENA AND REGGIO EMILIA REGGIO EMILIA, ITALY

2001 Responsible of the Young Investigator Project: *Effects of residual stresses and interfaces on the propagation of guided acoustic waves*.

RESEARCH GRANTS – PARTICIPATION

UNIVERSITY OF TRENTO TRENTO, ITALY

2014 EU FP7 Coordination and Support Action (CSA) no. 619319: *RoboSoft*, coordinator: Prof. C. Laschi (Scuola Superiore Sant'Anna, Pisa, Italy).

2011 MIUR-PRIN 2009 no. 2009XWLFKW: *Multiscale modelling of materials and structures*, coordinator: Prof. A. Corigliano (Milan University of Technology).

2010 EPSRC no. EP/H018514/1: *Asymptotic and numerical modelling of faults and thermal striping in materials with a micro-structure*, coordinator: Prof. A.B. Movchan (University of Liverpool, UK).

2007 MIUR-PRIN 2007 no. 2007YZ3B24: *Multiscale problems with complex interactions in structural engineering*, coordinator: Prof. A. Corigliano (Milan University of Technology).

2005 Industrial Research Project (SACMI Imola sc): *Modelling and simulation of ceramic powder compaction*, coordinator: Prof. D. Bigoni.

2005 MIUR-PRIN 2005 no. 2005085973: *Interface resistance and damage in materials and structural systems*, coordinator: Prof. A. Corigliano (Milan University of Technology).

2004 MIUR-PRIN 2004 no. 2004083253: *Microstructural models and problems: applications in the field of engineering*, coordinator: Prof. C. Cinquini (University of Pavia).

2003 MIUR-PRIN 2003 no. 2003082105: *Mechanical damage of interfaces in structural systems*, coordinator: Prof. A. Tralli (University of Ferrara).

UNIVERSITY OF MODENA AND REGGIO EMILIA REGGIO EMILIA, ITALY

2001 Research Project: *Retaining walls subject to seismic loads: comparison between experimental results and static, dynamic models,* responsible: Prof. E. Radi.

PH.D. STUDENT / POST-DOC SUPERVISION

2008 L. Magnarelli (Ph.D.; Advisor): *A constitutive framework for modelling conductive polymers*.

2008 S. Colli (Ph.D.; co-Advisor): *Boundary elements applied to incremental nonlinear elasticity* (now Research Associate at EURAC Research Centre, Bolzano, Italy).

2010 G. Shmuel (Ph.D.; co-Advisor for a six-month visit, from Ben-Gurion University, Beer-Sheva, Israel): *Wave propagation in a prestretched dielectric layer* (now Assistant Professor at Technion, Haifa, Israel).

2011 S. Roccabianca (Ph.D.; co-Advisor): *Structures under large bending: finite solution and bifurcation analysis* (now Assistant Professor at Michigan State University, East Lansing, USA).

2011 S. Colonnelli (Ph.D.; Advisor): *Instability of soft dielectric actuators* (now Research Associate at University of Perugia, Italy).

2013 D. Colquitt (Post-doc, co-Advisor for a six-month visit): *Structural elastic metamaterials* (now Lecturer at University of Liverpool, UK).

2015 E. Bortot (Ph.D.; Advisor): *Performance optimization of dielectric elastomer generators* (now Post-doc at Technion-Israel Institute of Technology, Haifa, Israel).

2015 L. Calabrese (Ph.D.; co-Advisor): *Electroactive soft actuation*.

2016 K.C.K. Mutasa (MPhil; Advisor): *Dielectric elastomer composites for advanced smart actuation*.

2017 L. Morini (Post-doc; Advisor): *Quasiperiodic waveguides*.

2017 O. Noorikalkhoran (Post-doc; Advisor): *Simulation of radiation effects on structural materials*.
2018 V. Volpini (Ph.D.; co-Advisor for a six-month visit): *Dielectric elastomer composites for advanced energy conversion*.
2018 P. Liguori (Ph.D., Advisor).
2019 G. Bianchi (Ph.D.; co-Advisor for a three-month visit).
2019 A. Farhat (Ph.D., Advisor).
2019 M.E. Kanik (Ph.D., Advisor).
2019 Z. Chen (Ph.D., Advisor).

2003-2020 Advisor of approximately seventy Master theses (School of Engineering, University of Trento; School of Engineering, Cardiff University).

STUDENT'S PRIZES AND AWARDS

2017 A. Michelon (Master): Best Master Dissertation Deepening Aspects of Historical and Cultural Heritage of Trentino, awarded by Provincia Autonoma di Trento (Italy)

2017 E. Bortot (PhD): Best Ph.D. Dissertation in Mechanical and Structural Engineering, awarded by University of Trento.

2018 L. Calabrese (PhD): Best scientific poster, EuroEAP 2018 Conference, Lyon (France), awarded by the Scientific Committee.

EDITORIAL ACTIVITY

2012-2013 International Journal of Fracture (co-Guest Editor of the Special Issue dedicated to the topic *Fracture in Nature and Technology*), vol. 184, issues 1-2.

REFEREE ACTIVITY

Referee for the following international journals (selected):
Journal of the Mechanics and Physics of Solids, Physical Review Letters, Applied Physics Letters, Physical Review Applied, Physical Review B, Scientific Reports, Proceedings of the Royal Society A, Computer Methods in Applied Mechanics and Engineering, International Journal of Solids and Structures, Smart Materials and Structures, New Journal of Physics, Soft Robotics, Extreme Mechanics Letters, International Journal of Fracture, European Journal of Mechanics/A-Solids, Continuum Mechanics and Thermodynamics, Journal of Sound and Vibration …

Referee for the following agencies (selected):
European Research Council (ERC-Starting Grants), UKRI-EPSRC (UK), European Cooperation Science and Technology Agency (COST), United States-Israel Binational Science Foundation (BSF), German Academic Exchange Service (DAAD), Royal Society Te Aparangi of New Zealand, Danish Council for Independent Research, National Research Foundation of South Africa (NRF-RISA), Czech Science Foundation, Irish Research Council, Rowland Fellowships (Harvard University).

MEMBERSHIPS OF ACADEMIC STAFF SELECTION PANEL

2019 Expert panel for the selection of an Associate Professor in Structural Engineering, Norwegian University of Life Sciences, As, Norway.
2018 Panel for the selection of a Lecturer in Advanced Solid Mechanics, Cardiff University, Cardiff, UK.

PH.D. EXAMINER ACTIVITY

Chair of the panel for the following Ph.D. defences: L.H. San Jose, A. Okon, K. Al-Awad, S. Hutt, X. Chen (Cardiff U.).

Expert examiner of the following Ph.D. theses: L. Tevet-Deree, G. Shmuel, G. Weil (Ben-Gurion U.), G. Francisco, M. Garau (Keele U.), R. Steiner (U. of Bristol), R. Poya (Swansea U.), F. Ahmad, X. Lin, P. Bonilla, A. Safar, X. Wang (Cardiff U.), F. Vadalà (U. of Genova).

ORGANIZING ACTIVITY

CARDIFF UNIVERSITY CARDIFF, UK

2019 Organizer of the Workshop Multiphysics Mechanics, Cardiff, UK, 24 June 2019.
2019 Member of the Organizing Committee of *RAMSS2019,* Trento, Italy, 6-7 June 2019.
2018 Member of the Organizing Committee of *ESMC2018, European Solid Mechanics Conference*, Bologna, Italy, 2-6 July 2018.
2017 Organizer of the *Elasticity Day 2017*, Cardiff, UK, 13 May 2017.

UNIVERSITY OF TRENTO TRENTO, ITALY

2007 Member of the Organizing Committee of the *I Meeting of the "Material Modelling" Section of AIMETA (GMA07),* Trento, Italy, 23-24 February 2007.
2009 Member of the Organizing Committee of *the International Symposium on Defect and Material Mechanics (ISDMM09)*, Trento, Italy, 6-9 July 2009.
2011 Member of the Organizing Committee of the *IUTAM Symposium on Fracture in Nature and Technology*, Brescia, Italy, 1-5 July 2012.
2012 Member of the Organizing Committee of the *1st International Summer School on Smart Structures*, Trento, Italy, 2-7 September 2012.
2013 Member of the Scientific Committee of *the CERMODEL2013 International Conference*, Trento, Italy, 10-12 July 2013.
2013 Head of the B.Sc. and M.Sc. Civil Engineering Programs, University of Trento.
2014 Co-organizer of the workshop *Multiscale Modelling in Ceramics*, in *APM-2014: The 42nd International Summer School-Conference in Advanced Problems in Mechanics*, Saint Petersburg, Russia, 30 June-5 July 2014.
2015 Member of the Organizing Committee of the *86th GAMM Meeting*, Lecce, 23-27 March 2015.
2015 Member of the Scientific Committee of *the CERMODEL2015 International Conference*, Trento, Italy, 1-3 July 2015.

PROFESSIONAL MEMBERSHIPS AND QUALIFICATIONS

2002-date Registered in Italy as Chartered Engineer (Ordine Ingegneri Provincia di Trento, no. 3376-A).

PH.D. / SUMMER SCHOOL COURSES

CISM UDINE, ITALY

2021 Lecturer of Mechanics of Periodic Structured Solids, CISM-UniUD joint course Optimization of Shape and Material Properties: Advanced Mathematical Methods and 3D Printing, April 2021.
2021 Lecturer of Electro- and Magneto-mechanics of Soft Solids: Experiments, Modeling and Instabilities, June 2021.

UNIVERSITY OF TRENTO TRENTO, ITALY

2012-2014 Lecturer of Mechanics of Soft Electro-active Polymers and Introduction to Large-strain Elasticity, Ph.D. in Structural Engineering, Solid Mechanics Curriculum.
2012-2013 Lecturer of Mechanics of Smart Dielectric Elastomer Structures: Basic Principles and Applications, *1st and 2nd International Summer Schools on Smart Materials and Structures*, Trento, 2-7 September 2012, 22-26 July 2013.
2014 Lecturer of Introduction to large-strain elasticity, Ph.D. in Civil, Environmental and Mechanical Engineering.
2020 Lecturer of Mechanics of electro-active materials, Ph.D. in Civil, Environmental and Mechanical Engineering.

TEACHING EXPERIENCE

UNIVERSITY OF PARMA PARMA, ITALY

2003 Lecturer of Statics (4 ects), School of Architecture (a.y. 2003/04).

UNIVERSITY OF TRENTO TRENTO, ITALY

2004-2005 Lecturer of Structural Mechanics for ICT (6 ects), School of Engineering (a.y. 2004/05, 2005/06).
2005 Lecturer of Structural Mechanics 1 (5 ects), School of Engineering (a.y. 2004/05).
2006-2011 Lecturer of Structural Mechanics (4.5 ects), School of Engineering (a.y. 2005/06-2011/12).
2006-2007 Lecturer of Solid Mechanics 1 (6 ects), School of Engineering (a.y. 2005/06-2006/07).
2006-2007 Lecturer of Theory of Plasticity and Limit Analysis (4 ects), School of Engineering (a.y. 2006/07).
2008-2009 Lecturer of Plates and Shells (5 ects), School of Engineering (a.y. 2007/08, 2008/09).
2009-2012 Lecturer of Theory and Dynamics of Structures (12 ects), School of Engineering (a.y. 2009/10-2012/13).
2008-2013 Lecturer of Statics (6 ects), School of Engineering (a.y. 2008/09-2012/13).
2012 Lecturer of Structural Mechanics (9 ects), DICAM (a.y. 2012/13).
2013-2019 Lecturer of Solid and Structural Mechanics (12 ects), DICAM (a.y. 2013/14-2014/15, 2019/20).
2013-2020 Lecturer of Mechanics of Masonry Structures (6 ects), DICAM (a.y. 2012/13-2014/15, 2019/20).
2014-2019 Lecturer of Structural Mechanics (6 ects), DICAM (a.y. 2012/13-2014/15, 2019/20).

FREE UNIVERSITY OF BOLZANO-BOZEN BOLZANO, ITALY

2013-2014 Lecturer of Structural Mechanics for Energy Engineering (6 ects), Faculty of Sciences and Technology (a.y. 2013/14-2014/15).

CARDIFF UNIVERSITY CARDIFF, UK

2015-2019 Lecturer of Renewable Energy EN4103 (15 ects), School of Engineering (a.y. 2015/16-2018/19).
2016-2017 Lecturer of Solid Mechanics EN3037 (5 ects), School of Engineering (a.y. 2015/16, 2016/17).
2017-2019 Lecturer of Advanced Structural Mechanics ENT700 (5 ects), School of Engineering (a.y. 2017/18-2018/19).

MEMBERSHIPS TO SCIENTIFIC SOCIETIES

2003-2020 AIMETA (Italian Association of Theoretical and Applied Mechanics).
2007-2020 GNFM (National Group of Mathematical Physics).
2010-2020 EUROMECH (European Mechanics Society).
2010-2020 ESNAM (European Scientific Network of Artificial Muscles).
2012-2020 ISIMM (International Society for the Interaction of Mechanics and Mathematics).
2017-2020 SISCO (Italian Society of Solid and Structural Mechanics).

LANGUAGE SKILLS

Italian: mother tongue;
English: fluent (speaking, reading and writing);
German: basic knowledge;
French: satisfactory.

PUBLICATION LIST

Ph.D. Thesis

1. *Bifurcation and wave propagation in coated structures under finite strain*. Advisor: Prof. D. Bigoni, co-Advisor: Prof. R.W. Ogden FRS. University of Trento (2001).

Papers Published in International Journals

2. Bigoni, D. and Gei, M. (2001). Bifurcations of a coated, elastic cylinder. *International Journal of Solids and Structures* **38**, 5117-5148.
3. Gei, M., Genna, F. and Bigoni, D. (2002). An interface model for the periodontal ligament. *Journal of Biomechanical Engineering* **124**, 538-546.
4. Gei, M. and Ogden, R.W. (2002). Vibration of a surface-coated elastic block subject to bending. *Mathematics and Mechanics of Solids* **7**, 607-629.
5. Gei, M., Bigoni, D. and Guicciardi, S. (2004). Failure of silicon nitride under uniaxial compression at high temperature. *Mechanics of Materials* **36**, 335-345.
6. Gei, M., Bigoni, D. and Franceschini, G. (2004). Thermoelastic small-amplitude wave propagation in nonlinear elastic multilayers. *Mathematics and Mechanics of Solids* **9**, 555-568.
7. Radi, E. and Gei, M. (2004). Mode III crack growth in linear hardening materials with strain gradient effects. *International Journal of Fracture* **130**, 765-785.
8. Dal Corso, F., Bigoni, D. and Gei, M. (2008). The stress concentration near a rigid line inclusion in a pre-stressed, elastic material. Part I – Full field solution and asymptotics. *Journal of the Mechanics and Physics of Solids* **56**, 815-838.
9. Bigoni, D., Dal Corso, F. and Gei, M. (2008). The stress concentration near a rigid line inclusion in a pre-stressed, 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.
10. Gei, M. (2008). Elastic waves guided by a material interface. *European Journal of Mechanics-A/Solids* **27**, 328-345.
11. Bigoni, D., Gei, M. and Movchan, A.B. (2008). Dynamics of a prestressed, stiff layer on an elastic half space: filtering and band gap characteristics of periodic structural models derived from long-wave asymptotics. *Journal of the Mechanics and Physics of Solids* **56**, 2494-2520.
12. Gei, M., Movchan, A.B. and Bigoni, D. (2009). Band-gap shift and defect-induced annihilation in prestressed elastic structures. *Journal of Applied Physics* **105**, 063507.
13. Colli, S., Gei, M. and Bigoni, D. (2009). A boundary element formulation for incremental nonlinear elastic deformation of compressible solids. *CMES: Computer Modeling in Engineering & Sciences* **40**, 29-62.
14. Gei, M., Movchan, A.B. and Jones, I.S. (2009). Junction conditions for cracked elastic thin solids under bending and shear. *Quarterly Journal of Mechanics and Applied Mathematics* **62**, 481-493.
15. Roccabianca, S., Gei, M. and Bigoni, D. (2010). Plane strain bifurcations of elastic, layered structures in finite bending: theory vs. experiments. *IMA Journal of Applied Mathematics* **75**, 525-548.
16. Gei, M. (2010). Wave propagation in quasiperiodic structures: stop/pass band distribution and effects of prestress. *International Journal of Solids and Structures* **47**, 3067-3075.
17. Bertoldi, K. and Gei, M. (2011). Instabilities in multilayered soft dielectrics. *Journal of the Mechanics and Physics of Solids* **59**, 18-42.

18. Gei, M., Roccabianca, S. and Bacca, M. (2011). Controlling band gaps in electroactive polymer-based structures. *IEEE-ASME Transactions on Mechatronics* **16**, 102-107.

19. Jones, I.S., Movchan, A.B. and Gei, M. (2011). Waves and damage in structured solids with multi-scale resonators. *Proceedings of the Royal Society of London* A **467**, 964-984.

20. Roccabianca, S., Bigoni, D. and Gei, M. (2011). Long wavelength bifurcations and multiple neutral axes of elastic layered structures subject to finite bending. *Journal of the Mechanics of Materials and Structures* **6**, 511-527.

21. Shmuel, G., Gei, M. and deBotton, G. (2012). The Rayleigh-Lamb wave propagation in a dielectric layer subjected to large deformations. *International Journal of Non-linear Mechanics* **47**, 307-316.

22. Carpi, F. and Gei, M. (2013). Predictive stress-stretch models of elastomers up to the characteristic flex. *Smart Materials and Structures* **22**, 104011.

23. Gei, M., Springhetti, R. and Bortot, E. (2013). Performance of soft dielectric laminated composites. *Smart Materials and Structures* **22**, 104014.

24. Gei, M., Colonnelli, S. and Springhetti, R. (2014). The role of electrostriction on the stability of dielectric elastomer actuators. *International Journal of Solids and Structures* **51**, 848-860.

25. Bortot, E., Springhetti, R. and Gei, M. (2014). Enhanced soft dielectric composite generators: the role of ceramic fillers. *Journal of the European Ceramic Society* **34**, 2623-2632.

26. 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.

27. Bortot, E., Springhetti, R., deBotton, G. and Gei, M. (2014). Optimal energy-harvesting cycle for a load-driven dielectric generator in plane-strain. *IMA Journal of Applied Mathematics* **79**, 929-946.

28. Colquitt, D., Brun, M., Gei, M., Movchan, A.B., Movchan, N.V. and Jones, I.S. (2014). Transformation elastodynamics and cloaking for flexural waves. *Journal of the Mechanics and Physics of Solids* **72**, 131-143.

29. Carpi, F., Anderson, I., Bauer, S., Frediani, G., Gallone, G., Gei, M., Graaf, C., Jean-Mistral, C., Kaal, W., Kofod, G., Kollosche, M., Kornbluh, R., Lassen, B., Matysek, M., Michael, S., Nowak, S., O'Brien, B., Pei, Q., Pelrine, R., Rechenbach, B., Rosset, S. and Shea, H. (2015). Standards for dielectric elastomer transducers. *Smart Materials and Structures* **24**, 105025.

30. Bortot, E. and Gei, M. (2015). Harvesting energy with load-driven dielectric elastomer annular membranes deforming out-of-plane. *Extreme Mechanics Letters* **5**, 62-73.

31. Bortot, E., Gei, M. and deBotton, G. (2015). Optimal energy harvesting cycles for load-driven dielectric elastomer generators under biaxial deformation. *Meccanica* **50**, 2751-2766.

32. Bortot, E., Denzer, R., Menzel, A. and Gei, M. (2016). Analysis of a viscous soft dielectric elastomer generator operating in an electric circuit. *International Journal of Solids and Structures* **78-79**, 205-215.

33. Broseghini, M., Zanetti, P., Jefferson, A.D. and Gei, M. (2018). Progressive instability in masonry columns. *Engineering Structures* **157**, 96-104.

34. Morini, L. and Gei, M. (2018). Waves in one-dimensional quasicrystalline structures: dynamical trace mapping, scaling and self-similarity of the spectrum. *Journal of the Mechanics and Physics of Solids* **119**, 83-103.

35. Gei, M. and Mutasa, K.C.K. (2018). Optimisation of hierarchical dielectric elastomer laminated composites. *International Journal of Non-linear Mechanics* **106**, 266-273.

36. Calabrese, L., Frediani, G., Gei, M., De Rossi, D. and Carpi, F. (2018). Active compression bandage made of dielectric elastomers. *IEEE-ASME Transactions on Mechatronics* **23**, 2328-2337.

37. Gei, M. and Misseroni, D. (2018). Experimental investigation of the progressive instability of no-tension brickwork pillars. *International Journal of Solids and Structures* **155**, 81-88.

38. Morini, L., Eyzat, Y. and Gei, M. (2019). Negative refraction in quasicrystalline multilayered metamaterials. *Journal of the Mechanics and Physics of Solids* **124**, 282-298.

39. Noorikalkhoran, O., Jafari, N., Gei, M. and Ahanagari, R. (2019). Simulation of hydrogen distribution and effect of Engineering Safety Features (ESFs) on its mitigation in a WWER-1000 containment. *Nuclear Science and Techniques* **30**, 97.

40. Volpini, V., Bardella, L. and Gei, M. (2019). A note on the solution of the electro-elastic boundary-value problem for rank-two laminates at finite strains. *Meccanica* **54**, 1971-1982.

41. Calabrese, L., Berardo, A., De Rossi, D., Gei, M., Pugno, N.M. and Fantoni, G. (2019). A soft robot structure with limbless resonant, stick and slip locomotion. *Smart Materials and Structures* **28**, 104005.

42. Morini, L., Tetik, Z.G., Shmuel, G. and Gei, M. (2019). On the universality of frequency spectrum and band-gap optimisation of quasicrystalline-generated phononic structures. *Philosophical Transactions of the Royal Society* **378***,* 20190240.

43. Noorikalkhoran, O. and Gei, M. (2020). Evaluation of neutron radiation damage on zircaloy fuel clad of nuclear power plants: a study based on PKA and dpa calculations. *Progress in Nuclear Energy* **118**, 103079.

44. Hamedani, A., Noorikalkhoran, O., Ahangari, R. and Gei, M. (2020). Evaluation of single heated channel and subchannel modeling of a nuclear once through steam generator (OTSG). *Kerntechnik* **85**, 54-67.

45. Bafrani, H.A., Noorikalkhoran, O., Gei, M. and Ahangari, R. (2020). On the use of boundary conditions and thermophysical properties of nanoparticles for application of nanofluids as coolant in nuclear power plants: a numerical study. *Progress in Nuclear Energy* **126**, 103417

46. Gei, M., Chen, Z., Bosi, F. and Morini, L. (2020). Phononic canonical quasicrystalline waveguides. *Applied Physics Letters* **116**, 241903.

International Journal Editorship

47. Bigoni, D., Carini, A., Gei, M. and Salvadori, A. (Eds.) (2013). Special Issue of *International Journal of Fracture* (Vol. 184, issue 1-2), selected papers presented at *IUTAM Symposium on Fracture Phenomena in Nature and Technology,* Brescia, Italy, 1-5 July 2012.

Refereed Books

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