

## ALBERTO CORIGLIANO

**Born in Milano (Italy), 1963**  
**married, one daughter, one son.**



### EDUCATION

**July 1982:** High School degree of Scientific studies, (60/60).

**April 1988:** *Laurea* (Master of Sciences), (100/100 with honours), in Structural Engineering. Thesis: *Elasto-plastic structural response to cyclic loadings: shakedown analysis, a priori bounds, evolutive analysis.*

### POSITION

**From May 1991 until October 1998:** *ricercatore* (assistant professor) of Structural Engineering at Politecnico di Milano, Italy.

**From November 1998 until August 2002:** *professore associato* (associate professor) of Structural Engineering at Politecnico di Milano, Italy.

**From September 2002:** *professore straordinario* (full professor) of Structural Engineering at Politecnico di Milano, Italy.

**From September 2005:** *professore ordinario* (full professor with tenure) of Structural Engineering at Politecnico di Milano, Italy.

**From January 2009 to December 2012:** deputy Head of Department of Structural Engineering at Politecnico di Milano, Italy.

### TEACHING ACTIVITIES

Courses of Strength of Materials, Structural Mechanics, Finite Elements, Computational Mechanics, Limit Analysis, Theory of Plasticity, Micro Electro Mechanical Systems for undergraduates; Advanced Fracture Mechanics, Micro Electro Mechanical Systems for PhD students.

### OTHER WORK EXPERIENCES

**July 1988 - October 1989:** service as Lieutenant in the Military Engineering Corps.

**December 1991 - November 1992:** research activity at the Laboratoire de Mécanique et Technologie Cachan - France with a CNR (Italian National Research Council) grant.

**July 1996, February 1997, July 1999, May 2006:** Visiting Professor at the Ecole Normale Supérieure Cachan, working at the Laboratoire de Mécanique et Technologie.

**July-August 2004:** Visiting scholar at the Department of Mechanical Engineering, Northwestern University, Evanston, IL, USA.

### AWARDS

February 2006: Bruno Finzi Prize for Rational Mechanics, Istituto Lombardo Accademia di Scienze e Lettere.

July 2015: appointed Euromech Fellow by the European Mechanics Society.

July 2018: member of Istituto Lombardo Accademia di Scienze e Lettere.

April 2024: awarded the ERC advanced grant IMMENSE, project 101140720

### PLENARY AND SEMI-PLENARY LECTURES

- **2010** Semi-plenary lecture “Modelling of spontaneous Adhesion phenomena in Microsystems” ECCM 2010 Paris, 16-21 May 2010.
- **2012** Sectional Lecture “Microsystems and mechanics” at the Congress ICTAM 2012, Beijing, 19-24 August 2012.
- **2013** Plenary Lecture “Recent advances in computational methods for microsystems” at the Congress SMART 2013, Torino, 24-26 June 2013.
- **2015** Plenary lecture “Non-linear mechanics and numerical simulations in microsystems: recent advances and applications”. APM 15, S. Petersburg, 22-27 June 2015.
- **2017** Plenary lecture “Metamaterials with auxetic and ultra-wide band gap properties”. APM 17, S. Petersburg, 22-26 June 2017.
- **2019** Plenary lecture “Recent advances in Microsystems and printed sensors”. APM 17, S. Petersburg, 24-29 June, 2019.
- **2025** Plenary lecture “Computing for mechanics and mechanics for computing”. CMM 25, Lodz, 8-11 July, 2025.

### SCIENTIFIC ASSOCIATIONS

Member of the Executive Congress Committee of the IUTAM from 2016 to 2024.

President of the 25<sup>th</sup> ICTAM 2020 (postponed to ICTAM2020+1) from 2016 to 2021.  
Chairman of the European Solid Mechanics Conference Committee (ESMCC) from 2013 to 2018.  
Member of the IUTAM (International Union of Theoretical and Applied Mechanics) Symposia Panel for Solid Mechanics from 2012 to 2016.  
Member AIMETA (Italian Association of Theoretical and Applied Mechanics) from 1988.  
Member GIMC (Italian Group of Computational Mechanics) from 1988.  
Member EUROMECH (European Mechanics Society) from 1995.  
Member IGF (Italian Group of Fracture) from 1996.  
Member of Eurosime Technical Committee (Thermal, Mechanical and Multiphysics Simulation and Experiments in Micro-Electronics and Micro-Systems) from 2003.  
Member IEEE from 2013.  
Member of the board of SISCO (Società Italiana di Scienza delle Costruzioni) from 2024.

### **JOURNAL EDITORIAL ACTIVITIES**

Associate Editor of European Journal of Mechanics A/Solids from 2006 to 2026.  
Associate Editor of Advanced Modeling and Simulation in Engineering Sciences from 2012.  
Associate Editor of Frontiers in Materials – Mechanics of materials from 2014.  
Member of the Editorial Board of: MDPI Micromachines, Sensors.

### **REFeree ACTIVITIES**

Reviewer for: Italian Agency for Evaluation of University and Research (Anvur); Italian Ministry of Research (MUR); Italian Universities; European ERC; French AERES; French ANR; German DFG, Israel Science Foundation; UK EPSRC; Romania Nat. Res. Council; Kentucky SEF; Tech. Univ. of Denmark (DTU), Dutch KU-Leuven, European Science Foundation.  
Reviewer for more than 100 international journals. Reviewer of national and international books.

### **CURRENT RESEARCH ACTIVITIES**

MEMS: design of on chip test devices for the mechanical characterization of polysilicon at the scale of micron. Fracture and fatigue at the micro scale. Multi-physics and multi-scale modelling. Micro energy harvesters. Micro gyroscopes. Micro Piezo Ultrasound Transducers, Micro-speakers.  
Metamaterials: phononic crystals, auxetic materials, smart metamaterials.  
Deep and reinforcement learning applied to materials and Structural Mechanics.

### **LIST OF THESES TUTORED BY ALBERTO CORIGLIANO**

#### **1. PhD Theses**

- 1 Michele Ricci. Simulazione di fenomeni di delaminazione in compositi a matrice polimerica. Politecnico di Milano. (1997).
- 2 Stefano Mariani. Simulation of ductile fracture: material models, computational aspects and parameter identification. Politecnico di Milano. (1998).
- 3 Roberto Giampieretti. Parameter identification of constitutive models for composites and laminates via homogenisation. Politecnico di Milano. (1999).
- 4 Fabrizio Cacchione, Mechanical characterization and simulation of fracture processes in polysilicon Micro Electro Mechanical Systems (MEMS). Politecnico di Milano. (2007).
- 5 Gigliola Salerno, Damage analysis of composite laminates subject to low velocity impacts. Politecnico di Milano. (2009).
- 6 Leonardo Baldassarre, Adhesion in poly-silicon MEMS: experimental characterization and numerical modelling. Politecnico di Milano. (2011).
- 7 Emanuele Bertarelli, Bio-MEMS for microscale fluid transport: design, simulation and prototyping. Politecnico di Milano. (2011).
- 8 Federica Confalonieri, A domain decomposition approach for the simulation of fracture phenomena in polycrystalline microsystems. Politecnico di Milano (2013).
- 9 Roberto Martini. Study of crack propagation for the fabrication of ultra-thin silicon solar cells. KU Leuven. (2014)
- 10 Mehrdad Bagherinia. MEMS Sensors for measuring the earth magnetic field: mechanical aspects. Politecnico di Milano (2014).
- 11 Martino Dossi. Combined Model Order Reduction and Domain Decomposition strategies for the solution of non-linear and multi-physics structural problems. Politecnico di Milano. To be discussed January (2015).
- 12 Giacomo Gafforelli. Piezoelectric Vibration Micro Energy Harvesters. Politecnico di Milano-MIT. To be discussed March (2015).
- 13 Valentina Zega. MemS sensors for the measurement of angular velocity: mechanical and structural issues. Politecnico di Milano. February (2017).
- 14 Luca D'Alessandro. Piezoelectric transducers and phononic crystals in microsystems. March (2018).

- 15 Gianluca Massimino. Multi-physics modelling and simulation of piezoelectric micro ultrasound transducers (PMUT). March (2020).
- 16 Y. S. A. Fouad Farshchi. Modelling and simulation of wafer to wafer bonding processes. April (2020).
- 17 Jacopo M. De Ponti. Smart materials and metamaterials. April (2021).
- 18 Luca Rosafalco. Blending physics and data in structural health monitoring. May (2022).
- 19 Michele Rosso. Mechanics of intentional and inherent nonlinearities in piezoelectric vibration energy harvesting. January (2023)
- 20 Chiara Gazzola. Design, Multiphysics modeling and experimental characterization of a piezoelectric MEMS loudspeaker for in-ear applications. June (2023).
- 21 Omer Mohamed Osman Abdalla. Efficient modelling and innovative applications of piezoelectric micromachined ultrasonic transducers. September (2025).
- 22 Filippo Perli. To be discussed (2026).
- 23 Lingzhi Chen. To be discussed (2026).
- 24 Emad Panhai. To be discussed (2027).
- 25 Alice Todeschini. To be discussed (2027).
- 26 Xinze Zhang. To be discussed (2028).
- 27 Marcello Cazzola. To be discussed (2028).
- 28 Giacomo Mondello Malvestiti. To be discussed (2028).

## 2. Laurea (Master) Theses

- 1 M. Chiumenti. Simulazione numerica di propagazione di fessure in materiali duttili. Politecnico di Milano. (1994).
- 2 S. Mariani. Meccanica della frattura elasto-plastica: parametri geometrici e loro impiego nello studio di condotte in pressione. Politecnico di Milano. (1995).
- 3 F. Carenini e M. Soffietti. Analisi per elementi finiti di fratture quasi fragili con modelli a discontinuità di spostamento su interfacce ed attraverso elementi. Politecnico di Milano. (1995).
- 4 S. Testolina. Meccanica della frattura duttile in condotte e recipienti in pressione. Politecnico di Milano. (1996).
- 5 A. Parolini. Analisi micromeccanica e macromeccanica di un elemento strutturale tubolare realizzato in materiale composito. Politecnico di Milano. (1997).
- 6 B. Orsatti. Applicazione della tecnica del filtro di Kalman discreto all'identificazione di parametri del modello di Gurson in processi di frattura duttile. Politecnico di Milano. (1998).
- 7 I. Schiavi e M. Savioli. Caratterizzazione sperimentale e simulazioni analitico-numeriche del comportamento meccanico di un composito a sandwich in vetroresina e schiuma sintattica. Politecnico di Milano. (1998).
- 8 M. Carli e R. Moroni. Resistenza a delaminazione in un composito a matrice termoplastica: identificazione sperimentale di modelli costitutivi e analisi numerica. Politecnico di Milano. (1999).
- 9 M. Molteni. Simulazione di processi di frattura in polimeri e compositi a matrice polimerica. Politecnico di Milano. (1999).
- 10 D. Buzzi. Studio di un modello macroscopico per compositi fibrosi mediante una tecnica di interferometria laser. Politecnico di Milano. (2000).
- 11 I. Mornati. Resistenza trasversale di materiali compositi periodici a fibre lunghe: influenza dell'interfaccia fibra-matrice. (2001).
- 12 P. Missaglia. Calcolo evolutivo elastoplastico di una ruota di treno veloce. Politecnico di Milano. (2001).
- 13 M. Iacchetti. Caratterizzazione meccanica del materiale e calcoli elasto-plastici evolutivi di una ruota di treno veloce. Politecnico di Milano. (2001).
- 14 D. Camagni. Elementi finiti e modelli costitutivi di interfaccia per lo studio di elementi strutturali rinforzati con lamine in composito. Politecnico di Milano. (2001).
- 15 A. Villa. Caratterizzazione meccanica del polisilicio epitassiale nella tecnologia Mems. Politecnico di Milano. (2002).
- 16 S. Bianchi. Frattura per delaminazione in un composito a matrice termoplastica: simulazione numerica ed identificazione della legge di interfaccia. Politecnico di Milano. (2002).
- 17 M. Binci. Modello numerico di un motore ultrasonico piezoelettrico. Politecnico di Milano. (2003).
- 18 R. Barbato e M. Camagni. Modellazione numerica del comportamento post-elastico di un composito alluminio-polietilene per imballaggi alimentari. Politecnico di Milano. (2003).
- 19 C.A. Limonta. Simulazione numerica del processo di apertura di un tappo a vite per imballaggi alimentari in composito alluminio-polietilene. Politecnico di Milano. (2003).
- 20 M. Epis. Studio di fenomeni di delaminazione in materiali compositi stratificati. Politecnico di Milano. (2003).
- 21 P. Redaelli. Programma per la discretizzazione spaziale di domini bidimensionali mediante elementi finiti triangolari ed elementi di interfaccia: uso dell'algoritmo di Delaunay. Politecnico di Milano. (2003).
- 22 S. Kashbur. Identificazione parametrica mediante tecnica del filtro di Kalman discreto in dinamica strutturale esplicita. Politecnico di Milano. (2003).
- 23 M. Carta. Tecniche di filtraggio applicate a problemi di identificazione parametrica in dinamica strutturale. Politecnico di Milano. (2003).
- 24 F. M. Zoia. Strutture multimemoria compatte: analisi e confronto. (2003).

- 25 F. Cacchione. Caratterizzazione delle proprietà meccaniche del polisilicio sottile prodotto con il processo Thelma™. Politecnico di Milano. (2003).
- 26 G. B. Ferri, M. Merli. Studio sul comportamento meccanico di adesivi per l'edilizia. Politecnico di Milano. (2004).
- 27 G. Sacco. Analisi ad elementi finiti tridimensionali di pavimentazione a rivestimento ceramico. Politecnico di Milano. (2004).
- 28 A. Larcán. Progettazione di prove a fatica per silicio policristallino mediante micro dispositivi elettro meccanici (MEMS). Politecnico di Milano. (2004).
- 29 W. Mondelli. Un modello costitutivo elasto-plastico a danneggiamento per lamine di composito fibro-rinforzato. Politecnico di Milano. (2005).
- 30 A. Giampieri, A. Mencarelli. Procedura di calcolo ad elementi finiti di guscio per la simulazione del processo di formatura di contenitori in laminato sottile. Politecnico di Milano. (2005).
- 31 L. Domenella. Attuatori elettro-termo-meccanici per microsistemi. Politecnico di Milano. (2005).
- 32 B. Jacques. Valutazione dei criteri di verifica di condotte sottomarine in campo post-buckling, Tesi, Ing. Civile, Politecnico di Milano. (2006).
- 33 M. Cremonesi. Implementazione di tecniche di parallelizzazione e di un metodo lagrangiano a particelle di fluido finalizzati allo sviluppo di un codice di calcolo ad elementi finiti per problemi di interazione fluido-struttura. Tesi, Ing. Matematica Politecnico di Milano. (2006).
- 34 G. Negrisoni. Caratterizzazione meccanica di adesivi per l'edilizia. Tesi, Ing. Civile, Politecnico di Milano. (2006).
- 35 Emanuele Greco. Metodi per la valutazione della dissipazione viscosa nei MEMS. Tesi, Ing. Matematica Politecnico di Milano. (2007).
- 36 Leonardo Baldassarre. Metodi computazionali per la soluzione di problemi accoppiati in micro sistemi elettro meccanici (MEMS). Tesi, Ing. Civile, Politecnico di Milano. (2007).
- 37 Alberto Capsoni. Modellazione numerica di processi di frattura in materiali poli-cristallini per micro-sistemi. Tesi, Ing. Civile, Politecnico di Milano. (2008).
- 38 Cesare Compri. Analisi e ottimizzazione di un accelerometro capacitivo uni assiale MEMS. Tesi primo livello, Ing. Matematica, Politecnico di Milano. (2008).
- 39 Mahael Fedele. Dynamic response of subsea free spanning pipelines subject to "pull-over" of bottom trawl equipment. Tesi, Ing. Civile, Politecnico di Milano. (2008).
- 40 Carlo Guerini. Analisi di strutture tridimensionali composte da elementi di trave e lastra-piastra: teorie strutturali ed elaborazione di un codice di calcolo agli elementi finiti. Tesi, Ing. Civile, Politecnico di Milano. (2009).
- 41 Ouafou Soh. Problemi di instabilità strutturale in travi e telai. Tesina, Ing. Civile, Politecnico di Milano. (2009).
- 42 Andrea Padoa. Towards the simulation of buckling driven delamination in a multi scale domain decomposition frame work. Tesina, Ing. Civile, Politecnico di Milano. (2009).
- 43 Alessandro Beccaluva, Maria Giulia De Donno. Micro-accelerometri capacitivi e risonanti: problemi di progettazione e di modellazione numerica. Tesi, Ing. Civile, Politecnico di Milano. (2009).
- 44 Federica Confalonieri. Metodi di decomposizione di domini per problemi di dinamica strutturale. Tesi, Ing. Civile, Politecnico di Milano. (2009).
- 45 Danilo Roncoroni. Metodi di decomposizione di dominio applicati a problemi di meccanica di solidi e strutture. Tesi, Ing. Civile, Politecnico di Milano. (2010).
- 46 Daniele Arosio. Modellazione e simulazione di fenomeni di adesione in microsistemi. Tesi, Ing. Matematica, Politecnico di Milano. (2010).
- 47 Stefano Ambrosi, Domenico Briganti. Modellazione e simulazione di dispositivi per la perforazione di pozzi petroliferi. Tesi, Ing. Civile, Politecnico di Milano. (2010).
- 48 Martino Dossi, Matteo Gornati, Metodi di decomposizione dei domini applicati alla soluzione di problemi elettro-meccanici. Tesi, Ing. Civile, Politecnico di Milano. (2011).
- 49 Amaury Courard, Fenomeni dissipativi in micro risonatori. Tesi, Ing. Civile, Politecnico di Milano. (2011).
- 50 Giacomo Gafforelli, Microattuatori elettrostatici e piezoelettrici per la realizzazione di micro pompe. Tesi, Ing. Civile, Politecnico di Milano. (2011).
- 51 Francesco Rizzini, Modelli semplificati e ad elementi finiti per la simulazione di fenomeni di adesione in microsistemi. Tesi, Ing. Matematica, Politecnico di Milano (2012).
- 52 Alessandro Bugada, Marco Martello, Modellazione e simulazione di fenomeni dissipativi in microsistemi. Tesi, Ing. Matematica, Politecnico di Milano (2012).
- 53 Salvatore Barbara, Applicazione della teoria flessionale inestensionale delle piastre sottili alla tecnica di curvatura a freddo di pannelli di vetro. Tesi, Ing. Civile, Politecnico di Milano. (2012).
- 54 Andrea Morbio, Alessandro Pepe, Modellazione e sperimentazione di elementi strutturali compositi piezoelettrici. Tesi, Ing. Civile, Politecnico di Milano (2013).
- 55 Valentina Zega, Risonatore torsionale per microsistemi: modellazione, sperimentazione, applicazioni. Tesi, Ing. Matematica, Politecnico di Milano (2013).
- 56 Giulia Saraceno, Design charts for composite laminated beams. Tesi, Ing. Civile, Politecnico di Milano - Mc Gill University, Montreal (2014).

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- 57 Giuseppe Russo, Modellazione e simulazione di un micro-giroscopio piezoelettrico Tesi, Ing. Civile, Politecnico di Milano (2014).
  - 58 Roberto Guinand, A weakly-intrusive multi-scale coupling method for dynamic analysis Extension to the Newmark schemes. Tesi, Ing. Civile, Politecnico di Milano - LMT Cachan (2014).
  - 59 Mauro Terraneo, Metodo di decomposizione dei domini applicato a problemi termo-elastici. Tesi, Ing. Civile, Politecnico di Milano (2015).
  - 60 Parya Keyvani, Polymer Piezolaminated Micro Actuator for Drug Delivery. Tesi, Materials Engineering and nanotechnologies, Politecnico di Milano (2015).
  - 61 Nystha Baishya, Auxetic structures for microsystems: study, modelling and 3D printing. Tesina Materials Engineering and nanotechnologies, Politecnico di Milano (2015).
  - 62 Karan Afshar Ghassemi, Frequency up conversion for energy harvesting: Piezoelectric Beam and Magnetic Forces. Tesina, Materials Engineering and nanotechnologies, Politecnico di Milano (2015).
  - 63 Y. S. A. Fouad Farshchi, Preliminary design and 3-D modelling and simulation of a piezoelectric micropump, Tesi, Materials Engineering and nanotechnologies, Politecnico di Milano (2016).
  - 64 Gianluca Massimino, Modellazione e simulazione di un micro trasduttore ultrasonico piezoelettrico, Tesi, Ing. Civile, Politecnico di Milano (2016).
  - 65 Massimiliano Milan, Micro-Systems for micro and nano-mechanical testing, Tesi, Ing. Civile, Politecnico di Milano (2016).
  - 66 Milena Doti, Alessandro Garatti, Comportamento dinamico non lineare in microstrutture: modellazione e validazione sperimentale. Tesi, Ing. Civile, Politecnico di Milano (2016).
  - 67 Chang Qu, Piezoelectric vibration energy harvester actuated by seismic excitation. Tesi, Ing. Civile, Politecnico di Milano (2016).
  - 68 Marco Paroni, Modelling and characterization of piezoelectric materials for microsystems. Tesina, Materials Engineering and nanotechnologies, Politecnico di Milano (2016).
  - 69 Paolo De Pol, Modellazione ad elementi finiti di piastre composite stratificate. Tesina, Ing. Civile, Politecnico di Milano (2016).
  - 70 Jacopo Carraro, Multi-physics modelling and design of a new piezoelectric micro-gyroscope. Tesi, Materials Engineering and nanotechnologies, Politecnico di Milano (2016).
  - 71 Andrea Castiglioni, Design, fabrication and modelling of three-dimensional microlattice structures. Tesi, Ing. Civile, Politecnico di Milano (2017).
  - 72 Alessandro Colombo, Modellazione multi-fisica ad elementi finiti di piastre stratificate con attuazione piezoelettrica per l'emissione di segnali ad Ultrasuoni. Tesi, Ing. Civile, Politecnico di Milano (2017).
  - 73 Alessandro Sergio Stoppato, Design, fabrication and analysis of a 3D-printed triaxial accelerometer. Tesi, Materials Engineering and nanotechnologies, Politecnico di Milano (2018).
  - 74 Luca Rosafalco, Selective mass scaling approach coupled to a domain decomposition technique for the solution of linear and non-linear structural problems. Tesi, Ing. Civile, Politecnico di Milano (2018).
  - 75 Mirko Damino, Modellazione e simulazione di processi di delaminazione e fatica in film metallici sottili. Tesi, Ing. Civile, Politecnico di Milano (2018).
  - 76 Matteo Rossi, Reti neurali applicate allo studio parametrico di problemi elastici lineari. Tesina, Ing. Civile, Politecnico di Milano (2018).
  - 77 Marco Bollati, Modelling, Simulation and Design of an electro-thermal microactuator for on-chip dynamic testing. Tesi, Materials Engineering and nanotechnologies, Politecnico di Milano (2018).
  - 78 Nadia Paderno, 3D metastructures for the manipulation of mechanical waves and Energy Harvesting. Tesi, Materials Engineering and nanotechnologies, Politecnico di Milano (2018).
  - 79 Ruixue Zhao, 3D Printed Metamaterials for Vibration Isolation. Tesina, Materials Engineering and nanotechnologies, Politecnico di Milano (2019).
  - 80 Giulio Tinacci, Ottimizzazione geometrica di microspecchi. Tesi, Ing. Civile, Politecnico di Milano (2019).
  - 81 Stefano Fanizzi, Artificial Neural Networks applied to problems in structural Mechanics and thermo-Mechanics. Tesi, Ing. Civile, Politecnico di Milano (2019).
  - 82 Javier Ramirez, Metamaterials for vibration control: an application for isolation of railway-induced vibrations. Tesi, Ing. Civile, Politecnico di Milano (2019).
  - 83 Leonardo dalla Rosa, Structural Health monitoring of a concrete tunnel lining under complex in situ loading. Tesi, Ing. Civile, KTH Stockholm-Politecnico di Milano (2019).
  - 84 Michele Rosso, Microstrutture piezoelettriche per applicazione di energy harvesting in ambito industriale. Tesi, Ing. Civile, Politecnico di Milano (2019).
  - 85 Elia Scattolo, Optimization and production of chemo-resistive gas sensors based on ultra-low power consumption silicon microheater. Tesi, Materials Engineering and nanotechnologies. FBK-Trento, Politecnico di Milano (2019).
  - 86 Jacopo Musumeci, Numerical Model of a piezoelectric actuated inkjet printhead. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2019).

- 87 Matteo Baiardi. Reliability of an electromagnetically actuated micromirror. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2019).
- 88 Pietro Aceti. Sistemi di energy Harvesting per sensori e dispositivi portatili, basati sull'uso di materiali piezoelettrici. Tesi, Ing. Aeronautica, Politecnico di Milano (2019).
- 89 Matteo Torzoni. modelli di ordine ridotto e reti neurali artificiali per il monitoraggio strutturale: analisi dell'influenza della temperatura nella localizzazione del danneggiamento. Tesi, Civil Engineering. Politecnico di Milano (2020).
- 90 Davide Brignoli. Studio di "metapiastra" per attenuazione di vibrazioni in microsistemi. Tesi, Civil Engineering. Politecnico di Milano (2020).
- 91 Borka Lazarova. Experimental characterization of piezoelectric micromachined ultrasound transducer – PMUT. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2020).
- 92 Dario Spreafico. Oscillatori piezoelettrici per la raccolta e conversione di energia da vibrazione. Tesi, Civil Engineering. Politecnico di Milano (2020).
- 93 Riccardo Canavese. Modellazione e simulazione di microspeakers piezoelettrici per applicazioni in-ear. Tesina, Materials Engineering and nanotechnologies, Politecnico di Milano (2020).
- 94 Marco Antonacci. Phononic crystal based lenses for focusing and energy harvesting. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2020).
- 95 Luca Martinelli. 3D-Printed Titanium Accelerometers. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2020).
- 96 Davood Hatami e Hosseinabadi Hossein Nouri. Additive Manufactured Piezopolymer-based Inertial sensor. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2020).
- 97 Omer Mohamed Osman Abdalla. Design, Modeling and Simulation of an Ultrasound-Based Stress Monitoring Application for Steel Structural Joints. Tesi, Ing. Civile. Politecnico di Milano (2020).
- 98 Matteo Furlan. Modelling simulation and design of micro-testing machines for microsystem fracture characterization. Tesi, Ing. Civile. Politecnico di Milano (2021).
- 99 Matteo Birondi. Modelling, simulation and design of MEMS for adhesion testing. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2021).
- 100 Luca Iorio. Rainbow trapping and reflection in elastic waveguides. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2021).
- 101 Matteo Colosio. Design Modelling and Mechanical/Acoustic Experimental Characterization of Piezoelectric Micro-Ultrasound Transducers. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2021).
- 102 Giorgia Colombera. Enhancing Structural Health Monitoring via Deep Learning: a generative adversarial network to forecast the transient response of damaged structures. Tesi, Ing. Civile. Politecnico di Milano (2021).
- 103 Yeqi Pan. Modelling and Simulation of A Printable Capacitive Pressure Sensor. Tesina, Materials Engineering and nanotechnologies. Politecnico di Milano (2021).
- 104 Alessandro Perlongo. Long-term thermo-hydro-mechanical behaviour modelling of double walled containment vessels: Application to the Vercors mock-up. Tesi, Ing. Civile. Politecnico di Milano (2021).
- 105 Eugenio Chini. Experimental Set-Up Development for a New Mechanical Reliability Approach. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2021).
- 106 Cristina D'Argenzio. Modeling and Experimental characterization of cross-talk effects in PMUT arrays. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2022).
- 107 Fabio Nistri. Mitigation of ground-borne vibrations using metabarriers. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2022).
- 108 Joo Wang Kim. Attention mechanism-based optimization of structural health monitoring systems. Tesi, Ing. Civile. Politecnico di Milano (2022).
- 109 Daniele Marchini. Modelling and simulation of piezoelectric microspeakers. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2022).
- 110 Kubilay Kahn Bachecki. Modeling and simulation of ultrasonic backscattering effects as intrabody communication application based on PMUT arrays. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2022).
- 111 Stefano Biemmi. Innovative Metaplate for Vibration Isolation of Resonant Microsystem. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2022).
- 112 Andrea Merlati. Convolutional Auto-Encoders and Markov Transition Fields for Structural Health Monitoring. Tesina, Ing. Civile. Politecnico di Milano (2022).
- 113 Andrea Ceresoli. Soldering effects on integrated circuits: Development of a comprehensive predictive tool. Tesi, Materials Engineering and nanotechnologies. Politecnico di Milano (2022).
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- 117 Syed Yusuf. Optimal Truss Design using Reinforcement Learning. Tesina, Civil Engineering. Politecnico di Milano (2023).
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- 134 Arvan Sedighzadeh. Designing with Intelligence: Optimizing Truss Structures via Hierarchical Tree Search. Tesi, Civil Engineering for risk mitigation. Politecnico di Milano (2025).

## LIST OF PUBLICATIONS OF ALBERTO CORIGLIANO

### Bibliometrical data

	Google Scholar	Scopus
Number of documents	460	281
Total number of citations	9103	6552
h-index	49	42
i-10 index	164	144

### 1. International Journals

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- CN.20 A. Corigliano, S. Mariani, A. Pandolfi, Time dependent fracture processes in dynamic delamination of composites. *Proceedings XVI AIMETA National Congress*, Ferrara 9-12 September (2003).
- CN.21 A. Corigliano, A. Ghisi, S. Mariani, Parameter identification in nonlinear structural dynamics by extended Kalman filter: stability and accuracy issues. *Proceedings: XV Convegno Italiano di Meccanica Computazionale*, Genova, 21-23 June (2004).
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- CN.38 V. Zega, C. Comi, P. Minotti, L. Falorni, A. Tocchio, G. Langfelder, A. Corigliano. Mechanical design of a fully-differential triaxial frequency modulated MEMS gyroscope. Proceedings XXIII Congresso Nazionale AIMETA, Salerno 4-7 September (2017).
- CN.39 M. Bruggi, A. Corigliano, V. Zega. Optimal 2D auxetic microstructures with band gap. In Book of Abstract XXII Convegno Gruppo Italiano di Meccanica Computazionale GIMC 2018 IX Riunione GMA Gruppo Materiali AIMETA. (2018).
- CN.40 L. Iorio, J.M. De Ponti, R. Ardito, A. Corigliano. Wave redirection and confinement via elastic meta-lattices. Proceedings XXV Congresso Nazionale AIMETA, Palermo 4-8 September (2022).

#### **10. Invited lectures at International Conferences, without paper**

- IL-1 A. Corigliano, Reliability of polysilicon micro electro mechanical systems (mems). Invited lecture at 17th Brazilian Congress of Mechanical Engineering, Sao Paulo, 10-14 November 2003.
- IL-2 A. Corigliano, F. Cacchione, A. Frangi. Some issues in the computational mechanics of micro electro mechanical systems. Challenges in computational mechanics, ENS-Cachan, 10-12 May (2006).
- IL-3 A. Corigliano, R. Ardito, A. Frangi. Modelling of spontaneous Adhesion phenomena in Microsystems. Semi plenary Lecture at ECCM2010, Paris, 16-21 May (2010).
- IL-4 A. Corigliano, R. Ardito, C. Coimi, A. Ghisi, A. Frangi, S. Mariani. Microsystems and mechanics. Sectional lecture al congresso ICTAM 2012, Pechino, 19-24 August (2012).
- IL-5 A. Corigliano. Non-linear mechanics and numerical simulations in microsystems: recent advances and applications. Plenary lecture at APM 15, S. Petersburg, 22-27 June (2015).
- IL-6 A. Corigliano, M. Dossi, S. Mariani. Combined Domain Decomposition and Model Order Reduction methods for the solution of multi-physics and non-linear problems in MEMS. Invited lecture at WS MOR-4-MEMS, Karlsruhe, 17-18 November (2015).