

**LINDA GIRESINI**

Ph.D. – Assistant Professor

**Current position**

Assistant Professor - University of Pisa - Department of Energy, Systems, Territory and Constructions Engineering

**Personal data**

Date of birth: February, 9<sup>th</sup> 1985.

**Address**

Largo L. Lazzarino, 1, 56100 Pisa. Department of Energy, Systems, Territory and Constructions Engineering  
DESTEC -University of Pisa  
[linda.giresini@unipi.it](mailto:linda.giresini@unipi.it)

**Scientific activity**

Dr. Giresini’s research interests include earthquake engineering, innovative dissipation devices for the mitigation of seismic risk, experimental tests on masonry and r.c. structures, seismic vulnerability assessment of existing buildings, sustainable and resilient infrastructures, low-cost structural solutions for developing countries, rehabilitation of archaeological sites.

**Patents**

- Unique inventor of LiCORD (Linear Controlled Rocking Device): device aimed at control the out-of-plane modes of historic masonry buildings through recentering and damped systems exploiting the traditional consolidation and retrofitting techniques (patent no. 102018000004026).
- Co-inventor of TROCKSISD (TRibological ROCKing Seismic ISolation Device, co-inventors Prof. M. Froli and Dr. F. Laccone) for the mitigation of seismic risk deriving from vibration of artistic and historic objects. The device works with a smooth-rocking mechanism where the energy dissipation occurs for friction developed in a semi-spherical cap and through peripheral dampers. The re-centering system is composed by V shaped springs, which also allow the structural protection from earthquakes with relevant vertical component (patent no. 102019000005478).

**Editorial Board and Revision of International Journals and metrics**

- Member of the Editorial Board of the International Journal of Earthquake and Impact Engineering (INDERSCIENCE)
- Reviewer of the following international journals:
  - Earthquake Spectra (EERI);
  - Journal of Cultural Heritage (ELSEVIER);
  - International Journal of Architectural Heritage (TAYLOR AND FRANCIS);
  - Engineering Structures (ELSEVIER);
  - Structures (ELSEVIER);
  - International Journal of Non-Linear Mechanics (ELSEVIER);
  - International Journal of Management Science and Engineering Management (TAYLOR AND FRANCIS);
  - International Journal of Earthquake and Impact Engineering (INDERSCIENCE).

*Metrics (citation years: 2011-2019, update 05.26.2019).*

DATABASE	H-INDEX	CITATIONS	Journal papers	Journal+conference papers
Scopus	11 (7 non self)	267	20	34
Web of Science	10	213	17	29

- Editor of the Special Issue "Traditional and Innovative Approaches in Seismic Design" Buildings, Linda Giresini and Francesca Taddei (Eds.) Pages: VI, 162, Published: March 2018, ISBN 978-3-03842-747-6 (Pbk) ISBN 978-3-03842-748-3.

## Research collaborations

---

- *October 2018-September 2019*: Visiting Professor at the Technical University of Munich (Lehrstuhl für Baumechanik)– prof. Eng. Gerhard Müller and Dr. Eng. Francesca Taddei about the analysis of anti-seismic dissipators for non-structural elements and out of plane modes of masonry structures.
- *01-07-2017 - today*: scientific responsible of the University of Pisa research group in the Italian National project (of National Interest, PRIN) “Mitigating the Impacts of natural hazards on Cultural Heritage sites, structures and artefacts (MICHe)”, national coordinator: prof. Mario De Stefano, UR Bologna (prof. Trombetti), Roma (prof. Bontempi), Firenze (prof. De Stefano), Bari (prof.ssa Foti), Pisa (Giresini).
- *Since January 2017*: leader of the UNUPI research group and responsible of a work package (in collaboration with the University of Naples and Roma La Sapienza), in the framework of ReLUIIS (network of university laboratories in earthquake engineering), funded by the Italian Civil Protection Department.
- *December 2017*: Visiting professor at the Lehrstuhl für Baustatik und Baudynamik, RWTH Aachen (Prof. Ing. Christoph Butenweg) on the topic "Experimental tests on masonry structures for their mechanical characterization".
- *February 2017*: Visiting professor at the Universidade do Minho, Departamento de Engenharia Civil. Guimarães - Portugal (Prof. Paulo B. Lourenço) on the topic "Recent developments of analytical approaches on rocking structures and results of experimental in situ tests".
- *June 2015*: Visiting post-doc at the Universidade do Minho, Departamento de Engenharia Civil. Guimarães - Portugal (Prof. Paulo B. Lourenço) on the topic "Study on the dynamic behavior of masonry structures: rocking analysis of rigid blocks with different boundary conditions and probabilistic approaches".
- *Sept. 2014*: Ph.D. visiting student at the Universidade do Minho, Departamento de Engenharia Civil. Guimarães - Portugal (Prof. Paulo B. Lourenço) on the topic "Seismic response of historic masonry structures and comparisons with kinematic analysis".
- *From Sept. 2013 to August 2014*: Ph.D. visiting student at the Lehrstuhl für Baustatik und Baudynamik, RWTH Aachen (Prof. Ing. Christoph Butenweg, Prof. Sven Klinkel) on the topic "Mechanical behavior and numerical simulations of masonry structures subjected to dynamic actions".

## Teaching experiences

---

### 2019

1. Course (6 hours) on *Analysis methods for the design of industrial facilities* and *Non linear dynamic analysis of structural and non-structural components* at the Rheinische Westfälische Technische Hochschule, Lehrstuhl für Baustatik und Baudynamik (Aachen) for International Student, Structural Engineering of Industrial Facilities (SEIF), July 2019.
2. Seminar (4 hours) in the course of Diagnosis and structural verification of historic and monumental constructions “Marcello Ciampoli” – Advanced Training Course "Marcello Ciampoli", Università La Sapienza di Roma, May, 30<sup>th</sup> 2019.
3. Course of *Solid Mechanics* in the School of Engineering (Energy Engineering) at the University of Pisa (Part II, 10 hours), A.Y. 2018-2019.
4. Course of *Structural design and technology* in the School of Engineering (Energy Engineering) at the University of Pisa (60 hours), A.Y. 2018-2019.
5. Teaching assistant for the course *Structural Design I* (Fundamentals of Earthquake Engineering) in the School of Engineering (Civil Engineering) at the University of Pisa, A.Y. 2018-2019, 15 hours.

## 2018

6. ATHENS (Advanced Technology Higher Education Network, Socrates) Intensive Course (15 hours) for European graduate students: "TUM30: Basics of Seismic Designs" at the Technical University of Munich, November, November 19<sup>th</sup>-23<sup>rd</sup> 2018.
7. Seminar (1 hour) for PhD Students of the Doctorate School L. Da Vinci (Università di Pisa): "Rocking in masonry structures: analysis, experimentation and mitigation techniques", September, 13<sup>th</sup> 2018.
8. Seminar (2 hours) for PhD Students of the Scuola di Dottorato in Ingegneria Strutturale e Geotecnica (Università di Roma La Sapienza): "Limit analysis", course "Existing masonry constructions", June 21<sup>st</sup> 2018.
9. Short Course (3 hours) on *Analysis methods for the design of industrial facilities* at the Rheinische Westfälische Technische Hochschule, Lehrstuhl für Baustatik und Baudynamik (Aachen) for International Student, Structural Engineering of Industrial Facilities (SEIF), June 2018.
10. Course on *Static and dynamic behavior of masonry structures* (9 hours) for MoS and PhD students at the Technical University of Munich (Prof. Ing. Gerhard Mueller), March 19<sup>th</sup>-20<sup>th</sup> 2018.
11. Lecture (4 hours) "Structural dynamics of discrete and continuous systems: theory and experimentation on masonry wall's" for PhD Students and Researchers at the School of Engineering, doctoral program of Energy, Systems, Territory and Constructions Engineering, March, 23<sup>rd</sup> 2018.
12. Teaching assistant for the course *Structural Design I* (Fundamentals of Earthquake Engineering) in the School of Engineering (Civil Engineering) at the University of Pisa, A.Y. 2017-2018, 12 hours.
13. Course of *Solid Mechanics* in the School of Engineering (Energy Engineering) at the University of Pisa (Part II, 30 hours), A.Y. 2017-2018.

## 2017

14. Seminar on *Rocking behavior of masonry walls: role of restraints in analytical approaches and experimental tests* at the Lehrstuhl für Baustatik und Baudynamik, RWTH Aachen (Prof. Ing. Christoph Butenweg, Prof. Sven Klinkel), 2017, December 13<sup>th</sup>.
15. Lectures on *Technical Mechanics I* at the Fachhochschule Aachen, Campus Jülich (Prof. Ing. Christoph Butenweg)-4 hours, 2017, December 12<sup>th</sup>-13<sup>th</sup>.
16. Teaching assistant for the course *Structural Design I* (Fundamentals of earthquake engineering) in the School of Engineering (Civil Engineering) at the University of Pisa, A.Y. 2017-2018-October/November 2017, 12 hours.
17. Seminar on *Recent developments and experimental tests on rocking masonry structures* at the Universidade do Minho, Departamento de Engenharia Civil, Guimarães - Portugal, February, 22<sup>th</sup>, 2017.
18. Lecturer in the course "Elementi Di Ingegneria Forense in Campo Strutturale", CISM, International Centre for Mechanical Sciences, Energy and Environment, Fluid Mechanics, Udine, February, 15<sup>th</sup>-16<sup>th</sup> 2017.
19. Course of *Solid Mechanics* in the School of Engineering (Energy Engineering) at the University of Pisa (Part II, 30 hours), A.Y. 2016-2017.
20. Course of *Structural design and technology* in the School of Engineering (Energy Engineering) at the University of Pisa (60 hours), A.Y. 2016-2017.
21. Course of *Advanced structural design* in the Master of Science course of the Department of Architecture at the University of Sassari (27 hours), A.Y. 2016-2017.
22. Teaching assistant for the course *Structural Design* in the School of Engineering (Civil Engineering) at the University of Pisa, A.Y. 2016-2017.

## 2016

1. Guest Lecturer for on-site teaching activities about earthquake damages on masonry buildings in Reggiolo and Carpi (Emilia Romagna), invited by Prof. Dr.-Ing Gerhard Muller, Chair of Structural Mechanics, Technical University of Munich, October, 11<sup>th</sup>-12<sup>th</sup> 2016.
2. Course of *Structural design and technology* in the School of Engineering (Energy Engineering) at the University of Pisa (60 hours), A.Y. 2015-2016.
3. Course of *Advanced structural design* in the Master of Science course of the Department of Architecture at the University of Sassari (27 hours), A.Y. 2015-2016.
4. Teaching assistant for the course *Structural Design* in the School of Engineering (Civil Engineering) at the University of Pisa, A.Y. 2015-2016.
5. Teaching assistant for the course *Solid Mechanics* in the School of Engineering (Energy Engineering) at the University of Pisa, A.Y. 2015-2016.

## 2015

1. Seminar on *Local analysis on masonry structures: from kinematic to rocking approaches*, Department of Civil Engineering, University of L'Aquila, Dec. 16th, 2015.
2. Seminar on *Structural solutions of low-cost bamboo frames: experimental tests and constructive assessments*, II International Summer School "Awareness and responsibility of environmental risk - Architecture and bamboo workshop", Nuoro, University of Sassari, Sept., 5th, 2015.
3. Course of *Consolidation techniques for masonry buildings* in the Scuola Edile of Sassari, S.F.I.D.E. Project, Regione Sardegna, Italy, March-April 2015 (10 hours).
4. Seminar on *Structural concept and architectural choices*, Workshop di Progettazione "Densità diverse", Faculty of Architecture, University of Sassari, March, 19<sup>th</sup>, 2015.
5. Course of *Timber structures: design and examples* - Technologies of Civil Constructions, University of Pisa, Italy, December, 12<sup>th</sup>- 16<sup>th</sup> 2014 (5 hours).
6. Course of *Diagnosis and consolidations on masonry structures* at the Scuola Edile of Sassari, Olbia, Italy, October, 2014 (12 hours).
7. Seminar on *Modelling Techniques Of Historic Masonry Churches* at the Universidade do Minho Departamento de Engenharia Civil, Guimarães - Portugal, 8<sup>th</sup> September 2014.
8. Course of *Diagnosis and consolidations on masonry structures* at the Scuola Edile of Sassari, Italy, May, 29<sup>th</sup>-30<sup>th</sup> 2014 (8 hours).
9. Teaching assistant for the course *Solid Mechanics* in Energy Engineering at the University of Pisa, 2014 (20 hours).
10. Seminar on *Structural modeling of historic buildings and churches* at the 2<sup>nd</sup> level Master "Innovative solutions for civil engineering" Livorno, February, 27<sup>th</sup>, 2014 (4 hours).
11. Teaching assistant for the course *Advanced structural design* in Civil Engineering at the University of Pisa, from 2011 to 2013.
12. Course of *Masonry Constructions according to Italian Standards NTC2008 and Eurocode 6* at the Faculty of Architecture in Alghero (University of Sassari) (20 hours).

## Student supervision: PhD Thesis

---

- "Safety Assessment And Strengthening Of Short Span Bridges In Case Of Extreme Rainfalls", PhD Candidate: Eng. Mario Lucio Puppio, University of Pisa, 2016-2019 (completed with flying colours).
- "Analysis of retrofitting solutions to enhance the seismic behavior of masonry to timber connections in historical constructions ", PhD Candidate: Eng. Fabio Solarino, University of Minho, University of Pisa, 2017-2020.
- "Bridge Network Collapse Analysis using GIS and Artificial Intelligence Algorithms", PhD Candidate: Eng. Alessandro Pucci, University of Minho, University of Pisa, 2019-2022 (under approval).

## Student supervision: post-docs (Assegnisti di Ricerca) and graduated research fellows ("Borse di studio post lauream")

---

- Post-Doc Dr. Mario Lucio Puppio, "Mitigation of the impact of natural risks on cultural heritage structures", University of Pisa Department of Energy, Systems, Territory and Constructions Engineering (DESTEC), from December 2017.
- Research Fellow Eng. Fabio Doveri, "Seismic verifications of strategic and relevant buildings in the municipality of Rosignano Marittimo", University of Pisa Department of Energy, Systems, Territory and Constructions Engineering (DESTEC), from March 2019.
- Research Fellow Eng. Martina Ferrini, "Experimental tests supporting the seismic verifications of strategic and relevant buildings in the municipality of Rosignano Marittimo", University of Pisa Department of Energy, Systems, Territory and Constructions Engineering (DESTEC), from March 2019.
- Research Fellow Stefano Gaglioti, "Interpretation of experimental tests on seismic protection devices with analytical-numerical modelling", University of Pisa Department of Energy, Systems, Territory and Constructions Engineering (DESTEC), from March 2019.

### **Organization of conferences**

---

2018: Co-founder and organization of the 3<sup>rd</sup> International Workshop on Traditional Approaches in Seismic Design (TIASD), hosted by ISISE (Universidade do Minho), in collaboration with the Department of Energy, Systems, Territory and Construction Engineering (University of Pisa, Italy)-Chair of Structural Mechanics (TUM), Guimaraes, 2018, April, 26<sup>th</sup>-28<sup>th</sup>.

2017: Scientific Committee Member of DCEE, 6th International Workshop on Design in Civil and Environmental Engineering, University of Cagliari, November 9-11<sup>th</sup> 2017.

2017: Co-founder and organization of the 2<sup>nd</sup> International Workshop on Traditional Approaches in Seismic Design (TIASD), Department of Energy, Systems, Territory and Construction Engineering (University of Pisa, Italy)-Chair of Structural Mechanics (TUM), Pisa, 16-18<sup>th</sup> March 2017.

2016: Co-founder and organization of the 1<sup>st</sup> International Workshop on Traditional Approaches in Seismic Design (TIASD), Chair of Structural Mechanics (TUM) - Department of Energy, Systems, Territory and Construction Engineering (University of Pisa, Italy), Munich, 31<sup>st</sup> March-3<sup>rd</sup> April 2016.

### **Invitation as speaker in conferences**

---

Key-note speaker, "Stochastic Assessment Of Rocking Masonry Façades Under Real Seismic Records", ECCOMAS Thematic Conference on "Computational Methods in Structural Dynamics and Earthquake Engineering", Crete, Greece, 24-26 June 2019.

### **Research Grants**

---

May 2014 - October 2015: 18 months-fellowship in the project Master and Back, University of Sassari, on the topic "Tecniche e analisi per il consolidamento di costruzioni storiche e tradizionali nel bacino del Mediterraneo" SSD ICAR/09 – Tecnica delle Costruzioni ("Techniques and analysis for consolidation of historic and traditional buildings in the Mediterranean area")

March 2013 - July 2014: 4 months-scholarship Erasmus Placement "Traineeship post laurea all'estero" provided by the University of Pisa, first place among engineering PhD students ("Traineeship post-lauream in foreign countries").

September 2013 - March 2014: 6 months-scholarship provided by DAAD (Deutscher Akademischer Austauschdienst, German Academic Exchange Service).

February 2012 - August 2013: 18 months-scholarship provided by Polo Universitario dei Sistemi Logistici in Leighorn (Italy) entitled "Analisi di rischio sismico di edifici pubblici esistenti" ("Analysis of seismic risk of public existing buildings").

### **Education**

---

Ph.D. Scuola Leonardo da Vinci, University of Pisa. Thesis title: "Modelling techniques and rocking analysis for historic structures: influence of vaulted systems in the seismic response of churches" - Supervisors: Dott. Ing. Christoph Butenweg (RWTH Aachen), Dott. Ing. Anna De Falco (UNIPI), Prof. Ing. Mauro Sassu (UNIPI)

M.Sc. Civil Engineering at the University of Pisa, on 2011, 9<sup>th</sup> May ( 110/110 cum laude), Thesis title: "Preventive safety features for masonry infill panels in RC frame structures and dynamic non-linear analysis of a sports hall in Vicchio (Florence, Italy)".

B.Sc. Civil Engineering at the University of Pisa, on 2011, 9<sup>th</sup> May ( 110/110 cum laude), Thesis title: "Design of a roundabout at the road intersection of San Piero a Grado (Pisa): traffic analysis and design optimization".

High School Diploma at the Liceo Classico (Humanities) G.M. Dettori, Tempio P. (OT) on 2004, 4<sup>th</sup> July (100/100 cum laude).

### **Awards and honors for the research and educational activity**

---

- Awarded in 2018 with a TUM University Foundation Fellowship (one year duration), at the Technische Universität München, Lehrstuhl für Baumechanik. The selection was made by the TUFF Scientific Board and by the TUM Board of Management.
- Recipient of the Research Prize offered by the University of Pisa, Italy, for the scientific production during 2017. She was assessed the first Assistant Professor of the civil engineering field (infrastructures, structures, hydraulics, architecture).
- Selected for the participation at the Research Opportunities Week (ROW) at the Technische Universität München (TUM, Germany) by a scientific board from April 16<sup>th</sup> to 20<sup>th</sup> 2018. Total number of applications: 370 from 54 Countries (America, Asia, Europe, Australia); number of participants: 50 young Researchers.
- First place among PhD Engineering Students, awarded with an Erasmus Placement scholarship "Traineeship post-lauream abroad" offered by the University of Pisa for 4 months during PhD.

### **Membership of Committees and Research Groups**

---

- Expert Member of the Committee for the state examination for the Graduation to Professional Engineer, italian legislation D.P.R. June 5<sup>th</sup> 2001, 328/2001– n. 2 sessions, 2019.
- From Sept. 2015 to today: member of the GADeS group (Gruppo AIMeTA di Dinamica e Stabilità, Dynamic and Stability research group), at the invitation of Professor Angelo Luongo.

### **Publications on International Journals**

---

1. M. Froli, L. Giresini, F. Laccone, (2019). *Dynamics of a new seismic isolation device based on tribological smooth rocking (TROCKSISD)*. Engineering structures, 193, 154-169; DOI: 10.1016/j.engstruct.2019.05.014.
2. L. Giresini, F. Solarino, O. Paganelli, D. V. Oliveira, M. Froli (2019) *One-Sided rocking analysis of corner mechanisms in masonry structures: Influence of geometry, energy dissipation, boundary conditions*. Soil Dynamics and Earthquake Engineering, 123, 357-370, DOI: 10.1016/j.soildyn.2019.05.012.
3. M. L. Puppio, L. Giresini, F. Doveri, M. Sassu (2019) *Structural irregularity: The analysis of two reinforced concrete (r.c.) buildings*, Engineering Solid Mechanics, 7(1), 13.34 DOI: 10.5267/j.esm.2018.12.002.
4. L. Giresini, M. Sassu, (2018). *An on-site teaching laboratory in a village damaged by the 2009 Abruzzo earthquake*. Frattura ed Integrità Strutturale, 46 (2018) 178-189; DOI: 10.3221/IGF-ESIS.46.17.
5. L. Giresini, M. Sassu, L. Sorrentino (2018). *In situ free - vibration tests on unrestrained and restrained rocking masonry walls*. Earthquake Engng Struct Dyn. 2018;1 – 20. <https://doi.org/10.1002/eqe.3119>.
6. L. Giresini, C. Casapulla, R. Denysiuk, J. Matos, M. Sassu (2018). *Fragility curves for free and restrained rocking masonry façades in one-sided motion*, Engineering Structures, 164, 195-213; doi: 10.1016/j.engstruct.2018.03.003.
7. M. Sassu, A. Romanazzi, L. Giresini, W. Franco, C. Ferraresi, G. Quaglia, E. Orefice (2018). *Production procedures and mechanical behaviour of interlocking stabilized compressed earth blocks (ISCEBs) manufactured using float ram 1.0 press*, Engineering Solid Mechanics, 6(2), 89-104; doi: 10.5267/j.esm.2018.3.004.
8. F. Solarino, L. Giresini, W. Chang, H. Huang (2017). *Experimental Tests on a Dowel-Type Timber Connection and Validation of Numerical Models*, Buildings 2017, 7(4), 116; doi: 10.3390/buildings7040116.
9. C. Casapulla, L. Giresini, P.B. Lourenço (2017). *Rocking and Kinematic Approaches for Rigid Block Analysis of Masonry Walls: State of the Art and Recent Developments*, Buildings 2017, 7(3), 69; doi: 10.3390/buildings7030069.
10. M.L. Puppio, M. Pellegrino, L. Giresini, M. Sassu (2017). *Effect of Material Variability and Mechanical Eccentricity on the Seismic Vulnerability Assessment of Reinforced Concrete Buildings*, Buildings 2017, 7(3), 66; doi:10.3390/buildings7030066.
11. M. Sassu, L. Giresini, M.L. Puppio (2017). *Failure scenarios of small bridges in case of extreme rainstorms, Sustainable and Resilient Infrastructure, 1-9*; doi: 10.1080/23789689.2017.1301696.
12. B. Pantò, L. Giresini, M. Sassu, I. Calìò (2017). *Non-linear modeling of masonry churches through a discrete macro-element approach*, Earthquakes and Structures, 12(2), 223-236. doi: 10.12989/eas.2017.12.2.223.

13. L. Giresini, M. Sassu, C. Butenweg, V. Alecci, M. De Stefano (2017). Vault macro-element with equivalent trusses in global seismic analyses, *Earthquakes and Structures*, 12(4), 409-423.
14. M. Sassu, J. Zarins, L. Giresini, L. Newton (2017). The “Triple R” approach on the restoration of archaeological dry stone city walls: procedures and application to a UNESCO World Heritage site in Southern Arabia, *Conservation & Management of Archaeological Sites*, Taylor and Francis, 19:2, 106-125, DOI: 10.1080/13505033.2017.1321358.
15. M. Sassu, L. Giresini, E. Bonannini, M.L. Puppio (2016). On the Use of Vibro-Compressed Units with Bio-Natural Aggregate, *Buildings*, 6(3), 40; doi: 10.3390/buildings6030040.
16. L. Giresini & M. Sassu (2016). Horizontally restrained rocking blocks: evaluation of the role of boundary conditions with static and dynamic approaches, *Bulletin of Earthquake Engineering*, 15(1), 385–410, DOI: 10.1007/s10518-016-9967-7.
17. M. Sassu, A. De Falco, L. Giresini, M.L. Puppio (2016). Structural Solutions for Low-Cost Bamboo Frames: Experimental Tests and Constructive Assessments, *Materials*, 9(5), 346; doi:10.3390/ma9050346.
18. L. Giresini, M.L. Puppio, M. Sassu (2016). Collapse of corrugated metal culvert in Northern Sardinia: analysis and numerical simulations, *Int. J. of Forensic Engineering 2016 - Vol. 3, No.1/2* pp. 69 - 85. DOI: 10.1504/IJFE.2016.075991.
19. L. Giresini, M. Fragiaco, M. Sassu (2016). Rocking analysis of masonry walls interacting with roofs, *Engineering Structures*, 116, 107-120. DOI: 10.1016/j.engstruct.2016.02.041.
20. L. Giresini (2015). Energy-based method for identifying vulnerable macro-elements in historic masonry churches, *Bulletin of Earthquake Engineering*, 44(13) 919–942. DOI: 10.1002/eqe.2592.
21. L. Giresini, M. Fragiaco, P.B. Lourenço (2015). Comparison between rocking analysis and kinematic analysis for the dynamic out-of-plane behavior of masonry walls, *Earthquake Engineering and Structural Dynamics*, 44(13) 2359-2376. DOI: 10.1002/eqe.2592.
22. A. De Falco, M. Froli, L. Giresini, M.L. Puppio, M. Sassu (2014). A proposal for the consolidation of a r.c. social housing by means of external hybrid steel-glass frameworks, *Applied Mechanics and Materials Vols. 638-640* (2014) pp 3-8. DOI: 10.4028/www.scientific.net/AMM.638-640.3.
23. M. Andreini, A. De Falco, L. Giresini, M. Sassu (2014). Structural damage in the cities of Reggiolo and Carpi after the earthquake on May 2012 in Emilia Romagna, *Bulletin of Earthquake Engineering*, August 2014. DOI: 10.1007/s10518-014-9660-7.
24. M. Andreini, A. De Falco, L. Giresini, M. Sassu (2013). Mechanical characterization of masonry walls with chaotic texture: procedures and results of in-situ tests. *International Journal of Architectural Heritage*, 8, 1-32, ISSN: 1558-3058, doi: 10.1080/15583058.2013.826302.
25. L. Giresini, A. Gioeli, M. Sassu (2014). Seismic Reinforcement of a RC Building with External Steel Frameworks: The Case of the Primary School XXV April of Arcola (Italy). *Advanced Materials Research* 834: 697-700, doi: 10.4028/www.scientific.net/AMR.834-836.697.
26. L. Giresini and M. Sassu (2014). Tests Results and Simple Structural Analysis of the Main Lighthouse in the Harbor of Livorno (Italy). *Advanced Materials Research* 834: 1299-1303, doi: 10.4028/www.scientific.net/AMR.834-836.1299
27. M. Andreini, A. De Falco, L. Giresini, M. Sassu (2013). Structural analysis and consolidation strategy of the historic Mediceo Aqueduct in Pisa (Italy). *Applied Mechanics and Materials*, vol. 351-352, 1354-1357, Trans Tech Publication, ISBN: 9783037857748, ISSN: 1662-7482, doi: 10.4028/www.scientific.net/AMM.351-352.1354
28. A. De Falco, L. Giresini, M. Sassu (2013). Temporary preventive seismic reinforcements on historic churches: numerical modeling of San Frediano in Pisa. *Applied Mechanics and Materials*, vol. 352, 1393-1396, Trans Tech Publication, ISBN: 9783037857748, ISSN: 1393-1396, doi: 10.4028/[www.scientific.net/AMM.351-352.1393](http://www.scientific.net/AMM.351-352.1393)
29. M. Andreini, A. De Falco, L. Giresini, M. Sassu (2013). Collapse of the historic city walls of Pistoia (Italy): causes and possible interventions. In: *Advances in Civil Structures*. *Applied Mechanics and Materials*, vol. 352, 1389-1392, Trans Tech Publication, ISBN: 9783037857748, ISSN: 1662-7482, doi: 10.4028/[www.scientific.net/AMM.351-352.1389](http://www.scientific.net/AMM.351-352.1389)
30. M. Andreini, A. De Falco, L. Giresini, M. Sassu (2012). Bamboo Trusses with Low Cost and High Ductility Joints, *Open Journal Of Civil Engineering*, 2(4), 229-234.

### Books and Chapters in Research Books

1. L. Giresini, Elementi di Tecnica e Tecnologia delle Strutture, Progetto di Strutture a Traliccio e Fondamenti di Ingegneria Sismica, Tipografia Editrice Pisana, ISBN 978-88-8250-243-0, 2019.
2. L. Giresini and C. Butenweg, "Earthquake resistant design of structures according to Eurocode 8", chapter 4, pages 226-373, Structural Dynamics with Applications in Earthquake and Wind Engineering, Authors: Meskouris, K., Butenweg, C., Hinzen, K.-G., Höffer, R., ISBN 978-3-662-57550-5, Springer, 2019.
3. L. Giresini, Le valutazioni elementari sulle strutture: modellazione di aspetti critici di strutture in muratura e in c.a., Ingegneria Forense in Campo Strutturale, Edition: 1st, Chapter: 3, Publisher: Monografie CISM-Dario Flaccovio Editore, Editors: Franco Bontempi, pp.181-225, 2017.
4. V. Awad, L. Giresini, M. Koshihara, M. L. Puppio and M. Sassu, Experimental Analyses and Numerical Models of CLT Shear Walls under Cyclic Loading, chapter 11, "Wood in Civil Engineering", book edited by Giovanna Concu, 223-240, ISBN 978-953-51-2986-8, Print ISBN 978-953-51-2985-1, Published: March 1, 2017.
5. M. Sassu, E. Bonannini, V. Cutini, A. De Falco, M. Andreini, L. Giresini, M. L., Puppio, Il piano di ricostruzione di San Pio delle Camere (AQ), edizioni ETS, ISBN: 978-884674281-0, Pisa, 2015.
6. M. Sassu et al, Consolidation of the historical city walls in the UNESCO archaeological site of Al Balid (Oman), Diary of activities 2011-2012- Diary of the works from 16th January to 11th February, Annex 3, pp. 123-222 and Diary of the works from 4th to 23th May, Annex 7 445-515, Ed. TEP, Pisa, 2012.
7. L. Giresini, A. M. Fulciniti, L. Cellesi, The classification of the caves under the territory of San Pio delle Camere – L'Aquila in "Studies and surveys on the seismic risk of the historic centre of San Pio delle Camere (AQ)" edited by M. Sassu, Pisa, ETS Editions, pp. 298, ISBN: 9788846730770, 2011-In Italian.

### Proceedings of International Conferences

1. Solarino, F., Oliveira, D., Giresini, L., (2019), A review on wall-to-timber floor anchorages in URM buildings, in: Towards a Resilient Built Environment Risk and Asset Management, pp. 1034–1041. ISBN9783857481635.
2. A. Pucci, M.L. Puppio, L. Giresini, H. Sousa, J. Matos and M.Sassu, (2019), Method for sustainable large-scale bridges survey," in: Towards a Resilient Built Environment Risk and Asset Management, pp. 1034–1041. ISBN9783857481635.
3. A. Pucci, M.L. Puppio, L. Giresini, J. Matos, H. Sousa and M. Sassu (2019), Sustainable safety evaluation of roads network in case of extreme weather events, MATEC Web. Conf. 281, International Conference of Engineering Risk (INCER2019), Article no. 01016.
4. Giresini, L.; Sassu, M (2017) An on-site teaching laboratory in a village damaged by the 2009 Abruzzo earthquake. In: Proceedings of the 6th International Workshop on Design in Civil and Environmental Engineering, Cagliari, Italy, November 9-11<sup>th</sup>, 2017.
5. Casapulla, C., Giresini, L., Argiento, L.U., Lagomarsino, S. (2017) Incremental Static and Dynamic Analyses of the Out-of-Plane Response of a Masonry Church damaged by 2016-2017 Central Italy Earthquakes - Analisi Statiche e Dinamiche Incrementali per la Valutazione della Risposta Fuori Piano della Facciata di una Chiesa colpita dal Terremoto Centro Italia 2016-17, ANIDIS 2017, ISBN 978-886741-8541 ISSN 2532-120X, At Pistoia, Volume: Proceedings of the XVII ANIDIS Conference on "L'ingegneria sismica in Italia".
6. Giresini, L. (2017) Design strategy for the rocking stability of horizontally restrained masonry walls, COMPDYN 2017 6th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, M. Papadrakakis, M. Fragiadakis (eds.) Rhodes Island, Greece, 15–17 June 2017.
7. Giresini, L. (2016) Rebound Effects And Oscillation Motion Of Restrained Rocking Façades, International Symposium on Experimental Methods, and Numerical Simulation in Engineering Sciences, 2016, Liblice, Czech Republic, September, 18 th - September, 21<sup>st</sup>, 2016, Editors: Daniel Kytýr, Petr Zlamal, Ondrej Jirousek, ISBN: 978-80-01-06009-4.
8. Giresini, L.; Lourenço, P.B.; Puppio, M.L.; Sassu, M. (2016) Rocking and kinematic analysis of two masonry church façades, Proc. of X Int. Conf. on Structural Analysis of Historical Constructions – SAHC 2016, Leuven (Belgium), September 13th-15th 2016.
8. Giresini, L.; Sassu, M.; Cecconi, R. (2016) Innovative mix design with bionatural aggregates for precast vibro compressed units. In: Proceedings of the 16th IB<sup>2</sup>MAC International Brick and Block Masonry Conference, Padova, Italy, June 26-30, 2016.



9. M. Andreini, A. De Falco, L. Giresini, M.L. Puppio, M. Sassu (2016). Structural protection after landslide phenomena: A case study in Northern Italy. In: Civil Engineering and Urban Planning IV, Proceedings of the 4th International Conference on Civil Engineering and Urban Planning, Beijing, China, 25-27 July 2015, Edited by Yuan-Ming Liu, Dong Fu, Zhen-Xin Tong, Zhi-Qing Bao, and Bin Tang, CRC Press 2016, Pages 241–246, Print ISBN: 978-1-138-02903-3, eBook ISBN: 978-1-315-64515-5, DOI: 10.1201/b19880-45.
10. L. Giresini, M.L. Puppio, M. Sassu (2015). Analysis of seismic risk on existing dams. Part I: an example of masonry structure. In: Proceeding of the 4th ICEEP (Int. Conf. on Energy and Environmental Protection) June, 3rd-4th 2015, Shenzhen, China, *DEStech Publications*, paper n.7441, ISBN:978-1-60595-264-2.
11. M.L. Puppio, L. Giresini, M. Sassu (2015). Analysis of seismic risk on existing dams. Part II: an example of concrete structure. In: Proceeding of the 4th ICEEP (Int. Conf. on Energy and Environmental Protection) June, 3rd-4th 2015, Shenzhen, China, *DEStech Publications*, paper n.7887, ISBN:978-1-60595-264-2.
12. L. Giresini, C. Butenweg, M. Andreini, A. De Falco, M. Sassu (2014). Numerical Calibration Of A Macro-Element For Vaulted Systems In Historic Churches. In: Proceedings of the 9th International Conference on Structural Analysis of Historical Constructions, October 14<sup>th</sup>-17<sup>th</sup>, 2014, Mexico City ISBN 04-2014-102011495500-102.
13. L. Giresini, C. Butenweg, M. Andreini, A. De Falco, M. Sassu (2014). Macro-elements identification in historic chapels: the case of st. Venerio chapel in Reggiolo – Emilia Romagna. In: Proceedings of the 9th International Conference on Structural Analysis of Historical Constructions, October 14<sup>th</sup>-17<sup>th</sup>, 2014, Mexico City ISBN 04-2014-102011495500-102.
14. L. Giresini (2014). A Procedure For Identifying Vulnerable Macro-Elements In Historic Masonry Churches. In: Proceedings of the XIV Bilateral German/Czech Symposium “Experimental Methods and Numerical Simulation in Engineering Sciences”, 1-4, June 4<sup>th</sup>-7<sup>th</sup>, 2014, Wuppertal, Germany.
15. Andreini M., De Falco A., Formisano A., Giresini L., Sassu M., Historic centre of San Pio delle Camere under 2009 Abruzzo earthquake (Italy): survey campaign and seismic vulnerability estimation – Proc. 2nd International Conference on the Protection of Historical Constructions (PROHITECH) 2014, Vol.1, 445-451, Antalya, Turkey, 7th-9th May 2014.
16. M. Andreini, A. De Falco, A. Formisano, L. Giresini, M. Sassu, (2014). Preliminary survey for the rehabilitation and seismic protection works of the Middle Age Castle of Shawbak in the UNESCO area of Petra (Jordan) - Proc. 2nd International Conference on the Protection of Historical Constructions (PROHITECH) 2014, Vol.1, 445-451, Antalya, Turkey, 7th-9th May 2014.
17. M. Andreini, A. De Falco, L. Giresini, Lombardi, F., M. Sassu (2013). An Application of the RCW Seismic Dissipator On Masonry Buildings: On-Site Testing And Structural Analysis, In: Proceedings of the 12<sup>th</sup> Canadian Masonry Symposium, Vancouver, British Columbia, 2-5 June 2013.
18. M. Sassu, M. Andreini, A. De Falco, L. Giresini (2012). An innovative low cost solution for bamboo trusses with high-ductility connections, Proceedings of the International Conference on Frontiers of Mechanical Engineering, Materials and Energy (ICFMEME 2012), 20-21 December Beijing, China.

### **Proceedings of National Conferences**

---

1. L. Giresini & J. Matos (2015). Probabilistic approach in Rocking Analysis of Masonry Elements: influence of the restitution coefficient on the response. Proceedings of the National Congress Ricerca in Vetrina, Italian Association of Ph. D. and Ph.D. Students, Alghero, October, 9<sup>th</sup>-10<sup>th</sup> 2015, to be published in “Ricerca in vetrina. Originalità e impatto sul territorio regionale della ricerca scientifica di dottorandi e dottori di ricerca”, ed. Franco Angeli, Milano.
2. L. Giresini (2015). Dynamics of rocking elements with horizontal restraints, paper n. 297, XXII AIMETA Conference (Associazione Italiana di Meccanica Teorica e Applicata), Genova, Sept. 14<sup>th</sup>-17<sup>th</sup>, p.410-419, ISBN 978-88-97752-55-4.
3. L. Giresini, G. Giresini, M. Sassu. (2015) Collapse of corrugated metal culverts during rainstorms: a case study in Northern Sardinia (Italy). In: Proceedings of the Forensic Engineering National Congress IFCRASC’15, 285-296, May, 14-16 2015, Roma, ISBN:978-88-579-0447-4.
4. L. Giresini, S.Pagliara, M.Palermo, M. Sassu. (2015) Collasso per sormonto idraulico di piccoli ponti in recenti alluvioni nella Toscana meridionale. In: Proceedings of the Forensic Engineering National Congress IFCRASC’15, 297-306, May, 14-16 2015, Roma, ISBN:978-88-579-0447-4.

5. M. Andreini, A. De Falco, L. Giresini, M. Sassu. (2015) Recenti eventi di crollo in mura storiche urbane. In: Proceedings of the Forensic Engineering National Congress IFCRASC'15, 239-250, May, 14-16 2015, Roma, ISBN:978-88-579-0447-4.
6. L. Giresini (2013). Temporary preventive anti-seismic safety features for historic churches: the Church of San Verano in Peccioli (Pisa), Proceedings of the National Congress Ricerca in Vetrina, Italian Association of Ph.D. and Ph. D. Students, Sassari, September, 23<sup>th</sup>-24<sup>th</sup> 2013, In "Ricerca in vetrina. Originalità e impatto sul territorio regionale della ricerca scientifica di dottorandi e dottori di ricerca", ed. Franco Angeli, Milano, ISBN 9788891706034.
7. A. De Falco, L. Giresini, P. Ruschi, M. Sassu (2012). Collapse of the urban city walls in Pistoia (Italy): causes and possible interventions, Proceedings of the Forensic Engineering National Congress IFCRASC'12, 457-466, Pisa.

### Scientific Reports

---

1. L. Giresini, M. Sassu, *Technical Report On Models Of Churches With 3-Dim And Simplified Schemes With Their Interpretations*, RELUIS 2015, Project deliverable UNIPI-02, 2014.
2. L. Giresini, M. Sassu, *Guidelines for designing temporary preventive anti-seismic safety features for historic churches*, RELUIS 2013, Project deliverable UNIPI-c-01, 2013.
3. M. Andreini, A. De Falco, L. Giresini, M. Sassu (2013). *Technical Report On Mechanical Tests On Masonry: The Twin Panel Shear Compression Test (Tpt) And The Diagonal Compression Test*, vol. RELUIS AT1-1.1 Deliverable UNIPI-02-2013, 2013.
4. M. Sassu, M. Andreini, A. De Falco, L. Giresini, *'Medieval' Petra – Shawbak Project - Archaeological season 2011* Edited by Guido Vannini and Michele Nucciotti Chapt. 5 - Static consolidation: needs, opportunities and strategy, Università di Firenze, 2011.

### Conferences-speaker

---

1. COMPDYN 2019, Cretes – June 2019 (key note lecture)
2. TIASD 2016 (Munich, April)-2017 (Pisa, March)-2018 (Guimaraes, April).
3. DCEE 2017 Cagliari – November 2017
4. COMPDYN 2017 Rodi – June 2017
5. Elementi di Ingegneria Forense, CISM Udine – February 2017
6. EXNUM2016, Liblice, Prague - September 2016.
7. Ricerca in Vetrina, Alghero - October 2015.
8. AIMETA Genova - September 2015.
9. IF CRASC 15, Roma - June 2015.
10. ICCAHE 2014 - Hangzhou (China) - July 2014.
11. XIV Bilateral German/Czech Symposium Wuppertal (Germany) - June 2014.
12. Ricerca in Vetrina, Sassari - September 2013.
13. IF CRASC 12, Pisa - November 2012

### Work experiences

---

- Seismic Damage Surveying after the earthquake of 2016 (August and October) in Central Italy with the Ministero per i Beni e le Attività Culturali (MIBAC) – 1 week.
- Seismic Damage Surveying after the earthquake of May 2012 in Carpi (Modena, Emilia Romagna, Italy) and Reggio Emilia (RE, Emilia Romagna, Italy) in collaboration with the Ministero per i Beni e le Attività Culturali (MIBAC) – 1 week.
- Seismic Damage Surveying after the earthquake of May 2012 in Carpi (Modena, Emilia Romagna, Italia), organized by the *Ministero per i Beni e le Attività Culturali* (MIBAC) and *Italian National Fire Corps* (V.V. F.) – 4 weeks.
- Site Engineer at the UNESCO archaeological site of Al Balid (Salalah, Oman) for Sultanate of Oman (Office of the Adviser of HM the Sultan for Cultural Affairs) – 1 month.

- Stage in UNESCO archaeological site of Al Balid (Salalah, Oman) for Sultanate of Oman (Office of the Adviser of HM the Sultan for Cultural Affairs) – 1 month.
- Stage in L'Aquila (Italy) for the diagnosis and buildings reinforcement after the L'Aquila earthquake in 2009 organized by the Regione Toscana and the University of Pisa and Florence.
- Surveying activities after the earthquake of 6<sup>th</sup> of April 2009 in L'Aquila (Abruzzo, Italy) organized by the *Department of Civil Protection* for the evaluation of the seismic damage in masonry buildings.

Last update: June 20<sup>th</sup>, 2019.