

Francesco Cannizzaro's CV

Personal Data

- Place / Date of birth: Caltagirone (CT), Italy / 01 September 1981
- Italian (EU) Citizen
- E-mail: francesco.cannizzaro@dica.unict.it

Education and Qualifications

- Qualified as Associated Professor from 5 December **2017** to 4 December **2023** (Abilitazione Scientifica Nazionale)
- 4 April **2011** PhD ('Dottore di Ricerca') in Structural Engineering at the University of Catania (XXIII cycle), Italy, Department of Civil and Environmental Engineering, doctoral thesis on the "*Study of the seismic behaviour of historical buildings: a macro-element approach*" ("*Studio del comportamento sismico degli edifici storici: un approccio ai macro-elementi*") Supervisor: Prof. I. Calìò, Co-supervisors: Dott. Massimo Marletta, Dott. Bartolomeo Pantò, doi: 10.13140/RG.2.1.3094.3125
- November **2007** he is selected as PhD student at University of Catania in Structural Engineering (Cycle XXIII)
- July **2007** Chartered Engineer.
- 22 January **2007** Graduated (110/110) in Civil Engineering, at the University of Catania, Italy, with emphasis in Structural Engineering (5-year programme, equivalent to a 1st-class joint BEng+MSc): final dissertation on "A new macro-element approach for the study of the seismic behaviour of masonry vaults" ("*Un nuovo approccio ai macro-elementi per lo studio del comportamento sismico delle volte in muratura*"), Supervisor: Prof. Ivo Calìò, Co-supervisors: Dott. Marcello Falco, Dott. Massimo Marletta, Dott. Bartolomeo Pantò.
- 11 July **2000**: diploma in high school with concentration in Science (Liceo Scientifico) from "E. Majorana" High School in Caltagirone (CT), Italy (100/100).

Professional memberships

- From November **2007** he is member of the Register of Engineers of the Province of Catania ('Albo degli Ingegneri della Provincia di Catania').
- From September **2010** he is member of GIMC - Italian Group of Computational Mechanics ('Gruppo Italiano di Meccanica Computazionale').

IT skills

- Office Package, Internet browser
- Development languages: c++, c#, Visual Basic
- Technical computing languages: Matlab, Mathematica, Derive
- FE software: SAP2000, Midas, 3DMacro, ADINA, Lusas, SeismoStruct, HiStrA
- CAD software: AutoCad

Current position

- From May **2018** to date he is researcher (ricercatore RTD/A) in the field of Mechanics of Structures (settore scientifico disciplinare 08/B2 Scienza delle Costruzioni) at the Special Structure of Syracuse, Department of Civil Engineering and Architecture of the University of Catania

Past positions

- From March **2015** to March **2018** he is research fellow (assegnista di ricerca) at the Department of Civil Engineering and Architecture of the University of Catania with a research project entitled "*Il patrimonio storico monumentale metodi per la stima e la mitigazione del rischio sismico*", ("*The historical monumental heritage - methods for the assessment and mitigation of the seismic risk*") tutor Prof. I. Calìò

- In January **2017** he is visiting PhD at the Dipartimento Politecnico di Ingegneria e Architettura at the University of Udine under the supervision of Prof. A. Morassi
- From September to October **2015** he is visiting PhD at the Department of Civil Engineering at the University of Minho (Portugal) under the supervision of Prof. P.B. Lourenço
- From March to June **2015** research contract (contratto di collaborazione alla ricerca) in "*Implementation of numerical models for the seismic vulnerability of historical buildings*" (*Implementazione di modelli di calcolo per la vulnerabilità sismica di edifici storici*) at the Department of Civil Engineering and Architecture, University of Catania within the project ReLUIS.
- From January to February **2015** he is visiting PhD at the Department of Civil Engineering at the University of Minho (Portugal) under the supervision of Prof. P.B. Lourenço
- On February **2009** he co-founds the company "Gruppo Sismica srl" aiming at the development of Engineering software. Gruppo Sismica distributes the software 3DMacro and has currently about 500 licenses released. From February **2009** to date he co-supervises Gruppo Sismica's development team. From September **2010** to March **2015** he is the CEO of Gruppo Sismica
- From April to July **2014** research contract (contratto di collaborazione alla ricerca) in "*Expert advice for the finite element modelling of the headquarter of the faculty of Law in via Gallo in the present state and in the retrofitted state with base isolation*" (*Consulenza specialistica per l'implementazione di modelli agli elementi finiti dell'edificio sede della facoltà di Giurisprudenza in via Gallo nello stato di fatto e nello stato di progetto con isolamento sismico*) at the Department of Civil Engineering and Architecture, University of Catania within the project of retrofitting of the headquarter of the faculty of Law in via Gallo.
- September to December **2013** research contract (contratto di collaborazione alla ricerca) in "*Finite element modelling of masonry buildings*" (*Modellazione agli elementi finiti di edifici in muratura*) at the Department of Civil and Environmental Engineering, University of Catania
- January to August **2013** scholarship (borsa di studio) in "*Numerical models for the seismic monitoring of masonry and r.c. buildings*" (*Modelli numerici per il monitoraggio sismico di edifici in muratura e c.a.*). at the University of Pisa within the research project ReLUIS (research unit of Pisa coordinated by Prof. Mauro Sassu).
- February to October **2012** research contract (contratto di collaborazione alla ricerca) in "*Finite element modelling of in situ tests oriented to the characterization of the shear strength of masonry buildings*" (*Modellazione agli elementi finiti di procedure di prova orientate alla determinazione della resistenza a taglio in situ di edifici in muratura*) at the Department of Civil and Environmental Engineering, University of Catania within the research project ReLUIS (research unit of Catania coordinated by Prof. Ivo Calì).
- April to October **2011** research contract (contratto di collaborazione alla ricerca) in "*Innovative methods of in situ tests for the characterization of the mechanical properties of historical masonry*" (*Metodi innovativi di indagini in situ finalizzate alla caratterizzazione delle proprietà meccaniche di murature storiche*) in cooperation with the Department of Civil and Environmental Engineering, University of Catania.

Teaching Activity

- Since **2018/2019** he holds for the Department of Civil Engineering and Architecture, University of Catania the module of *Statics (Statica)*, within the course of Architecture (Architettura).
- Since **2017/2018** he holds for the Department of Civil Engineering and Architecture, University of Catania the module of *Mechanics of Structures (Meccanica delle Strutture)*, within the course of Architecture (Architettura).
- **2017/2018** teaching assistant for the Department of Civil and Environmental Engineering, University of Catania, within the module of *Modern techniques for the Seismic Design of Structures (Moderne Tecniche di Progettazione Antisismica)* held by prof. N. Impollonia
- **2017/2018** teaching assistant for the Department of Civil and Environmental Engineering, University of Catania, within the module of *Mechanics of Structures (Scienza delle Costruzioni)* held by prof. N. Impollonia
- **2016/2017** he held for the Department of Civil Engineering and Architecture, University of Catania the module of *Dynamics of Structures in Seismic Areas (Dinamica delle strutture in Zona Sismica)*, within the course of Building Engineering (Ingegneria Edile-Architettura).
- **2015/2016** he held for the Department of Civil Engineering and Architecture, University of Catania the module of *Dynamics of Structures in Seismic Areas (Dinamica delle strutture in Zona Sismica)*, within the course of Building Engineering (Ingegneria Edile-Architettura).

- **2014/2015** he held for the Department of Civil Engineering and Architecture, University of Catania the module of *Mechanics of Structures (Scienza delle Costruzioni)*, within the course of Building Engineering (Ingegneria Edile-Architettura).
- **2012 to 2014** teaching assistant for the Department of Civil and Environmental Engineering, University of Catania, within the module of *Inelastic and Limit Analysis of Structures (Analisi anelastica e a rottura delle strutture)* within the course of Structural and Geotechnics Engineering (Ingegneria Strutturale e Geotecnica) held by prof. I. Calìo
- **2011 to 2012** teaching assistant for the Department of Civil and Environmental Engineering, University of Catania, within the module of *Complements of Dynamics of Structures (Complementi di Dinamica delle Strutture)* within the course of Structural and Geotechnics Engineering (Ingegneria Strutturale e Geotecnica) held by prof. I. Calìo
- **2008 to 2010** teaching assistant for the Department of Civil and Environmental Engineering, University of Catania, within the module of *Inelastic and Limit Analysis of Structures (Analisi anelastica e a rottura delle strutture)* within the course of Structural and Geotechnics Engineering (Ingegneria Strutturale e Geotecnica) held by prof. A. Greco
- **2007 to 2011** teaching assistant for the Department of Civil and Environmental Engineering, University of Catania, within the module of *Dynamics of Structures (Dinamica delle Strutture)* within the course of Structural and Geotechnics Engineering (Ingegneria Strutturale e Geotecnica) held by prof. I. Calìo
- November **2010** to March **2011** he cooperates as tutor with the Department of Civil and Environmental Engineering, University of Catania, to the module of *Mechanics of Structures (Scienza delle Costruzioni)*, within the course of Civil Engineering (Ingegneria Civile) held by Prof. A. Greco.
- April to July **2010** he cooperates as tutor with the Department of Civil and Environmental Engineering, University of Catania, to the module of *Mechanics of Structures (Scienza delle Costruzioni)*, within the course of Building Engineering-Architecture (Ingegneria Edile-Architettura) held by Prof. A. Marinetti.
- May to November **2009** he cooperates as tutor with the Department of Civil and Environmental Engineering, University of Catania, to the module of *Mechanics of Structures (Scienza delle Costruzioni)*, within the course of Building Engineering-Architecture (Ingegneria Edile-Architettura) held by Prof. A. Marinetti.

Research activity

The research activity is mainly devoted to the following topics:

- Seismic vulnerability and retrofitting of masonry and mixed masonry-r.c. buildings
- Seismic vulnerability and retrofitting of historical and monumental buildings
- Assessment of the seismic response of masonry buildings by means of macro-models
- Dynamics of inhomogeneous beam models by means of mathematical models based on generalised functions
- Stability of inhomogeneous beam models by means of mathematical models based on generalised functions
- Finite element modeling of inhomogeneous beam models by means of mathematical models based on generalised functions
- Finite element modeling of inhomogeneous beam models by means of mathematical models based on generalised functions
- Static and dynamic damage identification in cracked beams
- Experimental and numerical dynamic behavior of rigid blocks
- Nonlinear modelling of masonry arch bridges
- Fiber-reinforced retrofitting strategies of masonry structures
- Nonlinear time histories of masonry structures

Participation in Research Projects

- He is part of the Research Unit of Catania (coord. by Prof. S. Caddemi) of project PRIN2015 on “Advanced mechanical modelling approach of innovative materials and structures for the solution of 2020 Horizon challenges”, (2017).
- He is part of the Research Unit of Catania (coord. by Prof. I. Calìo) of project ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) on in situ tests on masonry buildings, financed by Italian Civil Protection Department (2017).

- He took part of the Research Unit of Catania (coord. by Prof. I. Calì) of project ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) on in situ tests on masonry buildings, financed by Italian Civil Protection Department (2016).
- He took part of the Research Unit of Catania (coord. by Prof. I. Calì) of a project financed by ANCE Catania (Associazione Nazionale Costruttori Edili) on the seismic retrofitting of existing reinforced concrete buildings (2016).
- He took part of the Research Unit of Catania (coord. by Prof. I. Calì) of project ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) on in situ tests on masonry buildings, financed by Italian Civil Protection Department (2015).
- He took part to FIR2014 project (coord. by prof. I. Calì) on "Seismic vulnerability of historical aggregate buildings. New methodologies in speedy approaches and structural modelling ", financed by the University of Catania (2014).
- He took part to the Research Unit of Catania (coord. by Prof. I. Calì) of project ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) on in situ tests on masonry buildings, financed by Italian Civil Protection Department (2014).
- He took part to the Research Unit of Catania (coord. by Prof. I. Calì) of project ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) on in situ tests on masonry buildings, financed by Italian Civil Protection Department (2009-2012).
- He took part to the Research Unit of Catania (coord. by Prof. I. Calì) of the programme 1 of project ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) on masonry buildings, financed by Italian Civil Protection Department (2005-2008).

Experience as reviewer

Reviewer for the following scientific international journals:

- Scientific Research and Essays
- International Journal of Mechanical Sciences
- Engineering Structures
- Shock and Vibration
- Journal of Mechanical Engineering Sciences
- Mathematical Problems in Engineering
- Applied Mathematical Modelling
- Earthquake Engineering and Engineering Vibration
- SpringerPlus
- Mechanical Systems and Signal Processing
- Open Journal of Civil Engineering
- European Journal of Mechanics / A Solids
- Structures
- Case Studies in Construction Materials
- Journal of Sound and Vibration
- International Journal of Solids and Structures
- International Journal of Architectural Heritage
- Multidiscipline Modeling in Materials and Structures
- Composite Structures
- Structural Engineering and Mechanics
- European Journal of Environmental and Civil Engineering
- Applied Acoustics
- Journal of Vibration and Control
- International Journal of Masonry Research and Innovation
- Applied Sciences
- Frattura ed Integrità Strutturale
- Archive of Applied Mechanics
- Advances in Civil Engineering

Editorial activity

- Academic Editor for the journal *Mathematical Problems in Engineering*
- Associate Editorial Board Members for the journal *The Open Construction & Building Technology Journal*

Research grants

- On February **2014** he obtains together with PhD B. Pantò a 4-years financing for the creation of innovative startups with the project “*HISTRA (Historical STRuctural Analysis)*” within the project “Smart & Start - Information technologies and valuing of research” (€ 182.000).

Attendance at National and International PG Courses and Conferences

- AIMETA 2019, XXIV Conference of the Italian Association of Theoretical and Applied Mechanics Rome, 15-19 September **2019**
- Compdyn 2019, 7th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete (Greece) 24-26 June **2019**
- 16ECEE, 16th European Conference on Earthquake Engineering, Thessaloniki (Greece) 18-21 June **2018**
- AIMETA 2017, XXIII Conference of the Italian Association of Theoretical and Applied Mechanics Salerno, 4-7 September **2017**
- Euromech 2015 - Colloquium 562, Stability and control of nonlinear vibrating systems, Sperlonga, 25-29 May **2015**
- CIVIL COMP 2014, The Twelfth International Conference on Computational Structures Technology, Naples, 2-5 September **2014**
- ANIDIS, XV Italian National Conference on Earthquake Engineering. Padova, 30 June-04 July **2013**.
- 15th WCEE, World Conference of Earthquake Engineering, 24-28 September **2012**
- ANIDIS, XIV Italian National Conference on Earthquake Engineering. Bari, 18-22 September **2011**.
- 7th International Conference on Structural Analysis of Historical Constructions (SAHC 2010). Shanghai 6-8 October **2010**.
- Course “*Non deterministic mechanics*”, at the International Centre of Mechanical Sciences (CISM) Udine, 9-13 May **2011**, coords. Prof. I. Elishakoff, Prof. C. Soize.
- XVIII Italian Conference of Computational Mechanics. Siracusa 22-24 September **2010**.
- ANIDIS, XIII Italian National Conference on Earthquake Engineering. 28 June-02 July **2009**.
- Course: “*Structural Analysis of Historical Masonry Structures*”, Brescia, 1-4 December **2008**, coord. Prof. P.B. Lourenço.
- AGEI Conference – Applied Geophysics for Engineering, Messina 24-28 November **2008**.
- ANIDIS, XII Italian National Conference on Earthquake Engineering. Pisa, 10-14 June **2007**.
- Course: “*Estimating Seismic Demand For Performance-Based Engineering of Building*”. held by Prof. Anil K. Chopra at the University of Catania 7 to 9 Giugno **2005**.

Participation to Conferences as speaker

- F. Cannizzaro, N. Impollonia, G. Cocuzza Avellino S. Caddemi, I. Calì (2019) *Explicit assessment of the forced vibration of multi-cracked beams with uncertain damage intensity*. AIMETA 2019 - Proceedings of the XXIV Conference of the Italian Association of Theoretical and Applied Mechanics, Rome 15-19 September 2019. F. Cannizzaro, N. Impollonia, S. Caddemi, I. Calì, *Explicit dynamic solutions of damaged beams*. ISVCS12, 12th International Symposium on Vibrations of Continuous Systems Sporthotel Panorama, Corvara in Badia (BZ), Italy, July 28 – August 2, 2019.
- G. Cocuzza Avellino, I. Calì, F. Cannizzaro, S. Caddemi, N. Impollonia, *Response spectra of rigid blocks with uncertain behavior*. Compdyn 2019 - Proceedings of the 7th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete (Greece) 24-26 June 2019
- F. Cannizzaro, A. Greco, S. Caddemi, I. Calì, *Exact solutions for the statics of the multi-cracked circular arch*. AIMETA 2017 - Proceedings of the XXIII Conference of the Italian Association of Theoretical and Applied Mechanics Luigi Ascione, Valentino Berardi, Luciano Feo, Fernando Fraternali and Antonio Michele Tralli (eds.), Salerno 4-7 September **2017**, ISBN: 978-889-42484-7-0

- S. Caddemi, I. Calìo, F. Cannizzaro, *Divergence and flutter tensile instabilities of beam-columns*. Euromech 2015 - Colloquium 562, Stability and control of nonlinear vibrating systems, Sperlonga, 25-29 May **2015**.
- S. Caddemi, I. Calìo, F. Cannizzaro, B. Pantò (2014) *The Seismic Assessment of Historical Masonry Structures*. 12th International Conference on Computational Structures Technology. Naples 2-5 September **2014**.
- I. Calìo, F. Cannizzaro, M. Marletta, B. Pantò (2011) *A new approach for the assessment of the seismic response of existing buildings (Un nuovo approccio di modellazione della risposta sismica di edifici storici)*. ANIDIS, XIV Italian National Conference on Earthquake Engineering. Bari 18-22 September **2011**.
- S. Caddemi, I. Calìo, F. Cannizzaro, M. Marletta, B. Pantò. *Vulnerability analysis of the Concordia Temple*. SAHC 2010. Shanghai, 6-8 October **2010**.
- I. Calìo, F. Cannizzaro, M. Marletta, B. Pantò. *A Discrete-Element Approach for the simulation of the seismic behavior of historical buildings*. GIMC 2010. Siracusa, 22-24 September **2010**.

Participation to PG courses as speaker

- Seminar: "Existing buildings in the val di Noto: some considerations on the seismic vulnerability from past to future" within the workshop "Seismic risk and riqualfication of historical lands ", Caltagirone 24 November **2018** (organized by FAI Delegazione di Catania Gruppo di Caltagirone).
- Seminar: "Retrofitting strategies on existing buildings according to NTC 2018" (*Strategie di intervento sugli edifici esistenti alla luce delle NTC 2018*), Caltagirone April 21th **2018** (organized Association of Engineers of the Province of Catania).
- Course: "Masonry structures: from the knowledge to the seismic retrofitting" (*Le strutture in muratura: dalla conoscenza all'adeguamento sismico*) within the PhD Course in Civil, Environmental and Materials Engineering, University of Palermo (28 hours) June 15th- July 27th **2017**.
- Seminar: *A vulnerable heritage: meditation on the seismic vulnerability of masonry buildings in val di Noto (Un patrimonio vulnerabile: riflessioni sulla vulnerabilità sismica degli edifici in muratura nella val di Noto)*, Comiso, 26 November **2016** (organized by Club Unesco of Comiso).
- Course: *Assessment and retrofitting of histoical masonry buildings and reinfoced concrete buildings (Valutazione e consolidamento sismico di edifici esistenti in muratura a carattere storico - monumentale e di edifici esistenti in c.a.)*, Bologna, 13-14 June **2016** (organized by Association of Engineers of the Province of Bologna).
- Course: *Seismic vulnerability assessment of existing masonry buildings and innovative retrofitting techniques (Stima della vulnerabilità sismica degli edifici esistenti in muratura e tecniche tradizionali e innovative di miglioramento sismico)*. Ragusa, January-April **2015** (organized by Association of Engineers of the Province of Ragusa)
- Seminar: *The seismic assessment of historical masonry structures: a discrete-element approach*. Guimarães (Portugal), 7 January **2015** (organized by Departamento de Engenharia Civil, Universidade do Minho).
- Course: *The architectural religious heritage:safety and conservation of the churches (Il patrimonio architettonico religioso: messa in sicurezza e conservazione delle chiese)*. Cosenza, 20 May-5 June **2014** (organized by National Engineering Council, Association of Engineers of the Province of Cosenza and Mediterranean Foundation for Engineering).
- Course: *Vulnerability and seismic retrofitting of existing masonry buildings (Vulnerabilità e miglioramento sismico degli edifici esistenti in muratura)*. Catania, 30-31 May and 6 June **2013** (organised by ANCE Catania).
- Course: *Modelling of masonry buildings (Modellazione di edifici in muratura)*. Treviso, 18-19 April **2013** (organised by Association of Engineers of the Province of Treviso).
- Course: *Assessment and analysis of existing masonry buildings (Valutazione ed analisi di strutture esistenti in muratura)*. Treviso, 21-22 March **2013** (organised by Association of Engineers of the Province of Treviso).
- Course: *Modelling ans seismic retrofitting of r.c. and masonry buildings (Modellazione e consolidamento sismico degli edifici in muratura e in calcestruzzo armato)*. Bologna, 23-24 November **2012** (organised by Association of Engineers of the Province of Bologna).
- Course: *Modelling ans seismic retrofitting of r.c. and masonry buildings (Modellazione e consolidamento sismico degli edifici in muratura e in calcestruzzo armato)*. Roma, 6-7 June **2012** (organised by IdEA Association).
- Course: *Analysis and seismic retrofitting of r.c. and masonry buildings (Analisi ed adeguamento sismico di edifici in c.a. e in muratura)*. Messina, 21 April **2012** (organised by Inarsind).
- Course: *Advanced techniques of structural modelling and verifications according to the NTC 08 Italian Code (Tecniche avanzate di modellazione strutturale e verifiche ai sensi delle NTC 2008)*. Genova, 24 Febbraio **2012** (organised by Association of Engineers of the Province of Geneva).

- Course: *Advanced techniques of structural modelling and verifications according to the NTC 08 Italian Code (Tecniche avanzate di modellazione strutturale e verifiche ai sensi delle NTC 2008)*. Siracusa, 6-7 Dicembre **2011** (organised by Association of Engineers of the Province of Syracuse).
- Course: *Advanced techniques of structural modelling and verifications according to the NTC 08 Italian Code (Tecniche avanzate di modellazione strutturale e verifiche ai sensi delle NTC 2008)*. Milano, 18-19 November **2011** (organised by Association of Engineers of the Province of Milan).
- Course: *Modelling and seismic retrofitting of masonry existing buildings (Modellazione e consolidamento sismico degli edifici esistenti in muratura)*. Modena, 16 September **2011** (organised by Association of Engineers of the Province of Modena).
- Course: *The existing masonry buildings (Gli edifici esistenti con struttura in muratura)*. Trapani, 27 Maggio **2011** (organised by Association of Engineers of the Province of Trapani).
- Course: *Specialistic course on the retrofitting of masonry existing buildings (Corso specialistico sul recupero di edifici esistenti in muratura)*. Bologna, 7 April **2011** (organised by ASSOINAR).

Supervision activity

- Roberto Leone: *"Seismic vulnerability assessment of single nave churches in Modica (RG): anamnesis seismic retrofitting proposals "*, University of Catania - A.A. 2017-2018.
- Gessica Alecci: *"A Fiber Generalized Displacement Based (FGDB) Beam Element for Inelastic Analysis of Beams Accounting for Axial-Flexural-Shear Interaction"*, University of Catania - A.A. 2016-2017.
- Nunzio Catania: *Static analysis of beams with variable sections: direct and invers problems ("Analisi statica di travi a sezione variabile: problema diretto e inverso")*. Degree in Civil and Environmental Engineering, University of Catania - A.A. 2015-2016.
- Orazio Failla: *Static identification of structural damage in Euler-Bernoulli beams ("Identificazione statica di danni strutturali in una trave di Eulero-Bernoulli ")*. Degree in Civil and Environmental Engineering, University of Catania - A.A. 2015-2016.
- Vincenzo Sergio Vespo: *Static behaviour of curved beams ("Comportamento statico di travi ad asse curvilineo")*. Degree in Civil and Environmental Engineering, University of Catania - A.A. 2014-2015.
- Damiano Emanuele: *Comparisons among several methods for the assessment of the static response of curved structures ("Confronto tra alcuni modelli di calcolo nella valutazione della risposta statica di strutture a geometria curva")*. Laurea in Ingegneria Civile e Ambientale, Università di Catania - A.A. 2014-2015.
- Salvatore Greco: *The role of the filler in the stability of masonry vaults (Il ruolo dei rinfianchi nella stabilità delle volte in muratura)*. Degree in Structural and Geotechnics Civil Engineering, University of Catania - A.A. 2012-2013.
- Giuseppe Fidotta: *Analysis of the dynamic response of the inelastic beam by means of finite elements with distributed plasticity (Analisi della risposta dinamica della trave inelastica mediante elementi finiti a plasticità diffusa)*. Degree in Structural Engineering, University of Catania - A.A. 2011-2012.
- Giorgio Sammito: *Seismic retrofitting of a reinforced concrete existing building by means of seismic isolation (Adeguamento sismico di un edificio esistente in cemento armato mediante isolamento sismico)*. Degree in Structural Engineering, University of Catania - A.A. 2010-2011.
- Antonio Medulla: *Seismic retrofitting of a reinforced concrete existing building by means of viscous dampers (Adeguamento sismico di un edificio esistente in cemento armato mediante dissipatori viscosi)*. Degree in Structural Engineering, University of Catania - A.A. 2010-2011.
- Maria Canto: *Static Analysis of an arch with inhomogeneous mechanical properties (Analisi statica di un arco con proprietà meccaniche non omogenee)*. Degree in Civil Engineering, University of Catania – A.A. 2008-2009.
- Martina Leggio: *Seismic vulnerability of the Concordia Temple (Vulnerabilità sismica del Tempio della Concordia)*. Degree in Civil Engineering (geotechnics), University of Catania - A.A. 2008-2009.

Supervision activity in PhD Thesis

- Davide Rapicavoli: *The use of the generalised functions for the formulation of finite element inhomogeneous and inelastic beams (L'uso delle funzioni generalizzate per la formulazione di elementi finiti di travi inomogenee ed inelastiche)*. PhD Thesis in Structural and Geotechnical Engineering (cycle XXV), University of Catania - 2013 (Tutor. Prof. I. Calì).

- Giuseppe Cocuzza Avellino: “*Seismic Protection of Art Objects: experimental investigations and applications on rigid bodies*”. PhD Thesis in Valutazione e mitigazione dei rischi urbani e territoriali (cycle XXXIII), University of Catania - 2018 (Tutor. Prof. N. Impollonia).

Professional Activity

- In **2007** vulnerability assessment of the Elementary School San Domenico Savio for the Municipality of Caltagirone (Italy)
- In **2007** vulnerability assessment of the School in Via Amoroso for the Municipality of Caltagirone (Italy)

Software

He is co-author of the following software:

- Calìo, I., Cannizzaro F., Marletta M., Pantò B., *3DMacro: The software for masonry buildings (3DMacro: Il software per le murature)* (2009), www.3dmacro.it
- Calìo, I., Cannizzaro F., Pantò B., D. Rapicavoli, *HISTRA Arches and Vaults: Historical STRuctural Analysis* (2014), www.histra.it
- Calìo, I., Cannizzaro F., Pantò B., D. Rapicavoli, *HISTRA Bridges: Historical STRuctural Analysis* (2018), www.histra.it

List of Publications

Research reports

- R-1. Calìo I., Cannizzaro F., Grasso D., Marletta M., Pantò B., Rapicavoli D., (2006) *Trema project: report on the model with fixed base (Progetto Trema: Scheda modello fisso alla base)*, ReLUIS project
- R-2. Calìo I., Cannizzaro F., Grasso D., Marletta M., Pantò B., Rapicavoli D., (2006) *Simulations of the seismic behaviour of the model of Trema Project with fixed base (Simulazioni del comportamento sismico del modello fisso alla base del Progetto Trema)*, ReLUIS Project
- R-3. Calìo I., Cannizzaro F., Grasso D., Marletta M., Pantò B., Rapicavoli D., (2006) *Simulations of the seismic behaviour of the base isolated model of Trema Project (Simulazioni del comportamento sismico del modello isolato del Progetto Trema)*, ReLUIS Project
- R-4. Calìo I., Cannizzaro F., Marletta M., Pantò B. (2007). *A new macro-element approach for the study of the seismic behaviour of masonry elements with curved geometry (Un nuovo approccio ai macro-elementi per lo studio del comportamento sismico degli elementi in muratura a geometria curva)*, ReLUIS Project
- R-5. Calìo I., Cannizzaro F., Marletta M., Pantò B. (2009). *Assessment of the seismic vulnerability of the case study called Capri building (Stima della vulnerabilità sismica del caso di studio denominato edificio Capri)*, ReLUIS project
- R-6. Calìo I., Cannizzaro F., Marletta M., (2009). *A new discrete element form modelling structures with a curved geometry (Un nuovo elemento discreto per la modellazione di strutture a geometria curva)*, ReLUIS project
- R-7. Calìo I., Cannizzaro F., Caponetto R., Intelisano M., Margani G., Marletta M., Pantò B (2009). *Report on the conditions of "Gualtieri Palace" after the seismic event occurred in L'Aquila on 6 April 2009 (Report sullo stato dell'edificio denominato "Palazzo Gualtieri" a seguito dell'evento sismico del 6 Aprile 2009 presso L'Aquila)*, Prime Minister Office DEPARTMENT OF CIVIL PROTECTION Delegate for the managing of the emergency
- R-8. Calìo I., Cannizzaro F., Occhipinti G., Pantò B., Caddemi S., (2015). *Comparisons of different strategies, application to local benchmark models (Confronto tra diverse strategie di modellazione, applicazione su modelli benchmark locali)*, ReLUIS project

National Conferences

- NC-1. I. Calìo, F. Cannizzaro, E. D'Amore, M. Marletta & B. Pantò. (2008) *A new macro-element approach for the assessment of the seismic resistance of mixed reinforced concrete-masonry buildings: application to a case study (Un nuovo approccio ai macro-elementi per la stima della resistenza sismica di edifici in struttura mista)*

- muratura – calcestruzzo armato: applicazioni ad un caso di studio*). RELUIS Conference - Assessment and Reduction of the Seismic Vulnerability of existing r.c. buildings (Valutazione e Riduzione della Vulnerabilità Sismica di Edifici Esistenti in C.A.) Roma, 29-30 May 2008, ISBN: 978-88-7699-129-5
- NC-2. S. Caddemi, I. Calì, F. Cannizzaro, M. Marletta, B. Pantò. (2009) *Seismic Vulnerability of the Concordia Temple (Vulnerabilità sismica del Tempio della Concordia)*. Italian National Conference on Earthquake Engineering (ANDIS). Bologna, 28 June-2 July 2009, ISBN: 978-88-904292-0-0
- NC-3. I. Calì, F. Cannizzaro, M. Marletta. (2009) *A new discrete element for the study of curved masonry structures (Un nuovo elemento discreto per lo studio di strutture in muratura a geometria curva)*. Italian National Conference on Earthquake Engineering (ANDIS). Bologna, 28 June-2 July 2009, ISBN: 978-88-904292-0-0
- NC-4. I. Calì, F. Cannizzaro, R. Caponetto, M. Intelisano, M. Lepidi, G. Margani, M. Marletta, B. Pantò. *University and Research for Abruzzo How and why damaged monuments: GUALTIERI PALACE (L'Università e la Ricerca per l'Abruzzo Il come e il perché dei danni ai monumenti: PALAZZO GUALTIERI)*. Conference " University and Research for Abruzzo How and why damaged monuments " L'Aquila 17-19 December 2009.
- NC-5. I. Calì, F. Cannizzaro, M. Marletta, B. Pantò (2011) *A new approach for modelling the seismic response of historical buildings (Un nuovo approccio di modellazione della risposta sismica di edifici storici)*. XIV Conference ANIDIS - Italian National Conference on Earthquake Engineering. Bari 18-22 September 2011, ISBN: 9788875220402
- NC-6. S. Caddemi, I. Calì, F. Cannizzaro, P. Colajanni, B. Pantò, G. Ricciardi. (2013) *An innovative approach for modelling mixed r.c. masonry buildings. Application to a case study (Un approccio innovativo per la modellazione degli edifici in muratura intelaiata. Applicazione ad un caso di studio)*. Italian National Conference on Earthquake Engineering (ANDIS). Padova, 30 June-4 July 2013, ISBN: 978-88-97385-59-2
- NC-7. I. Calì, F. Cannizzaro, B. Pantò, F. Oliveto (2013) *The evaluation of settlements in masonry buildings by means of nonlinear static analyses with 3DMacro (La valutazione dei cedimenti in fondazione negli edifici in muratura mediante analisi statiche nonlineari condotte in ambiente 3DMacro)*. Italian National Conference on Earthquake Engineering (ANDIS). Padova, 30 June-4 July 2013, ISBN: 978-88-97385-59-2
- NC-8. S. Caddemi, I. Calì, F. Cannizzaro (2013) *Dynamic instability of damaged beams subjected to a non-conservative axial load*. AIMETA 2013, Torino 17-20 September 2013, ISBN: 978-88-8239-183-6
- NC-9. S. Caddemi, I. Calì, F. Cannizzaro (2013) *Buckling of shear deformable beams with singularities*. AIMETA 2013, Torino 17-20 September 2013, ISBN: 978-88-8239-183-6
- NC-10. S. Caddemi, I. Calì, F. Cannizzaro (2013) *The influence of the axial force on the vibration of damaged frames*. AIMETA 2013, Torino 17-20 September 2013, ISBN: 978-88-8239-183-6
- NC-11. F. Cannizzaro, M. Liuzzo, G. Margani, B. Pantò, (2017) *The dome of "Badia di Sant'Agata" in Catania: an example of self-supporting structure and seismic protection device*. Colloqui.AT.e 2017, Demolition and Reconstruction? Ancona, 28-29 Settembre 2017.
- NC-12. A. Greco, F. Cannizzaro, A. Pluchino (2017) *Limit analysis of planar frames under seismic load through immune algorithms*. AIMETA 2017 - Proceedings of the XXIII Conference of the Italian Association of Theoretical and Applied Mechanics Luigi Ascione, Valentino Berardi, Luciano Feo, Fernando Fraternali and Antonio Michele Tralli (eds.), Salerno 4-7 September 2017, ISBN: 978-889-42484-7-0
- NC-13. F. Cannizzaro, A. Greco, S. Caddemi, I. Calì (2017) *Exact solutions for the statics of the multi-cracked circular arch*. AIMETA 2017 - Proceedings of the XXIII Conference of the Italian Association of Theoretical and Applied Mechanics Luigi Ascione, Valentino Berardi, Luciano Feo, Fernando Fraternali and Antonio Michele Tralli (eds.), Salerno 4-7 September 2017, ISBN: 978-889-42484-7-0
- NC-14. S. Caddemi, I. Calì, F. Cannizzaro, B. Pantò (2017) *A parsimonious discrete modeling approach for the structural assessment of curved geometry masonry structures*. AIMETA 2017 - Proceedings of the XXIII Conference of the Italian Association of Theoretical and Applied Mechanics Luigi Ascione, Valentino Berardi, Luciano Feo, Fernando Fraternali and Antonio Michele Tralli (eds.), Salerno 4-7 September 2017, ISBN: 978-889-42484-7-0
- NC-15. S. Cattari, D. Camilletti, G. Magenes, C.F. Manzini, P. Morandi, E. Spacone, G. Camata, C. Marano, I. Calì, B. Pantò, F. Cannizzaro, G. Occhipinti, B. Calderoni, A. De Luca, E.A. Cardasco, G. Brandonisio, A. Sandoli, C. Casapulla, F. Portioli, G. De Felice, M. Malena, G. Lasciarrea (2017) *Comparative analysis of benchmark case studies for assessing the reliability of software packages targeted to the seismic assessment of URM buildings*. ANIDIS 2017 - XVII Convegno Nazionale di Ingegneria Sismica, Pistoia 17-21 Settembre 2017.
- NC-16. S. F. Cannizzaro, N. Impollonia, G. Cocuzza Avellino S. Caddemi, I. Calì (2019) *Explicit assessment of the forced vibration of multi-cracked beams with uncertain damage intensity*. AIMETA 2019 - Proceedings of the XXIV Conference of the Italian Association of Theoretical and Applied Mechanics, Rome 15-19 September 2019.

NC-17. S. Cattari, D. Ottonelli, S. Degli Abbatì, G. Magenes, C.F. Manzini, P. Morandi, E. Spacone, G. Camata, C. Marano, I. Calì, B. Pantò, F. Cannizzaro, G. Occhipinti, B. Calderoni, E.A. Cordasco S. de Miranda, G. Castellazzi, A.M. D'Altri, A. Saetta, D. Talledo, L. Berto (2019) *Use of computer programs for the nonlinear seismic analysis of masonry buildings: comparison of the results obtained with different software on an actual case*. ANIDIS 2019 - Proceedings of the XVIII Italian Conference on Earthquake Engineering, Ascoli Piceno 15-19 September 2019.

Extended abstracts on International Conferences

EA-1. S. Caddemi, I. Calì, F. Cannizzaro, *Divergence and flutter tensile instabilities of beam-columns*. Euromech 2015 - Colloquium 562, Stability and control of nonlinear vibrating systems, Sperlonga, 25-29 May 2015.

EA-2. S. Caddemi, I. Calì, F. Cannizzaro, *The role of shear deformation in the tensile instability of beam-columns*. ISVCS10, 10th International Symposium on Vibrations of Continuous Systems Stanley Hotel, Estes Park, Colorado, USA, July 26 –31, 2015.

EA-3. F. Cannizzaro, N. Impollonia, S. Caddemi, I. Calì, *Explicit dynamic solutions of damaged beams*. ISVCS12, 12th International Symposium on Vibrations of Continuous Systems Sporthotel Panorama, Corvara in Badia (BZ), Italy, July 28 – August 2, 2019.

International Conferences

IC-1. I. Calì, F. Cannizzaro, E. D'Amore, M. Marletta & B. Pantò. (2008) *A new discrete-element approach for the assessment of the seismic resistance of composite reinforced concrete – masonry buildings*. 2008 Seismic Engineering International Conference Commemorating the 1908 Messina and Reggio Calabria Earthquake (MERCEA '08). Reggio Calabria, 8-11 Luglio 2008, ISBN: 978-0-7354-0542-4

IC-2. I. Calì, F. Cannizzaro, M. Marletta, B. Pantò. (2010) *A Discrete-Element Approach for the simulation of the seismic behavior of historical buildings*. GIMC 2010. Siracusa, 22-24 Settembre 2010.

IC-3. S. Caddemi, I. Calì, F. Cannizzaro, M. Marletta, B. Pantò. (2010) *Vulnerability analysis of the Concordia Temple in Agrigento*. GIMC 2010. Siracusa, 22-24 Settembre 2010.

IC-4. I. Calì, F. Cannizzaro, M. Marletta. (2010) *A Discrete-Element for modeling masonry vaults*. 7th International Conference on Structural Analysis of Historical Constructions (SAHC2010) 6-8 October 2010, Shanghai (China), ISBN: 978-0-87849-239-8

IC-5. S. Caddemi, I. Calì, F. Cannizzaro, M. Marletta, B. Pantò. (2010) *Seismic Vulnerability of the Concordia Temple*. 7th International Conference on Structural Analysis of Historical Constructions (SAHC2010) 6-8 October 2010, Shanghai (China), ISBN: 978-3-908452-47-8

IC-6. F. Nucera, A. Santini, E. Tripodi, F. Cannizzaro, B. Pantò (2012) *Influence of geometrical and mechanical parameters on the seismic vulnerability assessment of confined masonry buildings by macro-element modeling*. 15WCEE, Lisboa 2012.

IC-7. I. Calì, F. Cannizzaro, B. Pantò (2012) *A macro-element approach for modeling the nonlinear behaviour of monumental buildings under static and seismic loadings*. 15WCEE, Lisboa 2012.

IC-8. S. Caddemi, I. Calì, F. Cannizzaro, B. Pantò (2013) *A New Computational Strategy for the Seismic Assessment of Infilled Frame Structures*. Civil Comp 2013, Cagliari 3-6 September 2013, ISSN: 1759-3433, Cagliari, 2013, doi: 10.4203/ccp.102.77

IC-9. S. Caddemi, I. Calì, F. Cannizzaro (2013) *Tensile and compressive buckling of shear deformable damaged beams*. SEMC 2013, Cape Town 2-4 September 2013, ISBN: 978-1-138-00061-2

IC-10. S. Caddemi, I. Calì, F. Cannizzaro, B. Pantò (2014) *The Seismic Assessment of Historical Masonry Structures*. 12th International Conference on Computational Structures Technology. Naples 2-5 September **2014**.

IC-11. M. Andreini, I. Calì, F. Cannizzaro, A. De Falco, L. Giresini, B. Pantò, M. Sassu (2014) *Seismic Assessment of the Historical Mixed Masonry-Reinforced Concrete Government Palace in La Spezia*. 9th International Conference on Structural Analysis of Historical Constructions. Mexico City 14-17 October **2014**

IC-12. B. Pantò, E. Raka, F. Cannizzaro, G. Camata, S. Caddemi, E. Spacone, and I. Calì (2015) *Numerical Macro-Modeling of Unreinforced Masonry Structures: A Critical Appraisal*. 15th International Conference on Computational Structures Technology. Prague 1-4 September **2015**.

IC-13. S. Caddemi, I. Calì F. Cannizzaro, G. Occhipinti, B. Pantò, (2015) *A parsimonious discrete model for the seismic assessment of monumental structures*. 15th International Conference on Computational Structures Technology. Prague 1-4 September **2015**.

- IC-14. S. Caddemi, I. Calìò F. Cannizzaro, (2015) *Advances in Dynamic Instability of Beams subjected to Tensile Loading*. 15th International Conference on Computational Structures Technology. Prague 1-4 September **2015**.
- IC-15 C. Chàcara, P.B. Lourenço, B. Pantò, F. Cannizzaro, I. Calìò, (2016) *Parametric numerical studies on the dynamic response of unreinforced masonry structures*. 10th International Conference on Structural Analysis of Historical Constructions. Leuven, 13-15 September **2016**.
- IC-16 A. Greco, A. Pluchino, F. Cannizzaro, (2017) *On the use of genetic algorithms to assess the seismic resistance of planar frame structures*. COMPDYN 2017, 6th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering. Rhodes, 15-17 June **2017**.
- IC-17 S. Caddemi, I. Calìò, F. Cannizzaro, P.B. Lourenço, B. Pantò, (2017) *FRP-reinforced masonry structures: numerical modeling by means of a new discrete element approach*. COMPDYN 2017, 6th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering. Rhodes, 15-17 June **2017**.
- IC-18 C. Chàcara, P.B. Lourenço, B. Pantò, F. Cannizzaro, I. Calìò, (2017) *Macro-element mass matrix for the dynamic assessment of unreinforced masonry structures*. Congresos de Métodos Numéricos en Ingeniería, 3-5 July **2017**.
- IC-19 C. Chàcara, P.B. Lourenço, F. Cannizzaro, B. Pantò, I. Calìò, (2017) *Seismic assessment of an unreinforced masonry structure subjected to out-of-plane dynamic excitations by means of a discrete macro-modelling approach*. 3rd International Conference on PROTECTION OF HISTORICAL CONSTRUCTIONS, 12-15 July **2017**.
- IC-20 S. Caddemi, I. Calìò, F. Cannizzaro, C. Chàcara, D. D'Urso, S. Liseni, P. B. Lourenço, G. Occhipinti, B. Pantò, D. Rapicavoli, (2018) *An Original Discrete Macro-Element Method For The Analysis Of Historical Structures*. 16ECEE - Thessaloniki: 16th European Conference on Earthquake Engineering, 18-21 June **2018**.
- IC-21 S. Cattari, D. Camilletti, G. Magenes, C.F. Manzini, P. Morandi, E. Spacone, G. Camata, C. Marano, I. Calìò, F. Cannizzaro, G. Occhipinti, B. Pantò, B. Calderoni, A.E. Cordasco, A. Sandoli, (2018) *A Comparative Study On A 2-Storey Benchmark Case Study Through Nonlinear Seismic Analysis*. 16ECEE - Thessaloniki: 16th European Conference on Earthquake Engineering, 18-21 June **2018**.
- IC-22 S. Caddemi, I. Calìò, F. Cannizzaro, D. D'Urso, G. Occhipinti, B. Pantò, G. Pisanelli, D. Rapicavoli, G. Spirolazzi, R. Zurlo (2018) *A 'parsimonious' 3D discrete macro-element method for masonry arch bridges*. 10th IMC - Milan, Italy: 10th International Masonry Conference, 9-11 July **2018**.
- IC-23 C. Chàcara, P.B. Lourenço, F. Cannizzaro, B. Pantò, I. Calìò, (2018) *Assessment of the Seismic Vulnerability of an Unreinforced Masonry Structure Based on Discrete-Macro Dynamic Analyses*. 11th International Conference on Structural Analysis of Historical Constructions, Cusco (Perù) 11-13 September **2018**.
- IC-24 A. Greco, A. Pluchino, F. Cannizzaro, I. Fiore, (2018) *Bio-inspired optimization algorithms for limit analysis of frame structures*. Proceedings of the 6th International Conference on Engineering Optimization. Lisbon, Portugal, 17-19 September **2018**.
- IC-25 S. Caddemi, I. Calìò, F. Cannizzaro, D. D'Urso, B. Pantò, D. Rapicavoli *3D Discrete Macro-Modelling Approach for Masonry Arch Bridges*. IABSE Symposium 2019 Guimarães Towards a Resilient Built Environment - Risk and Asset Management March 27-29, **2019**, Guimarães, Portugal.
- IC-26 G. Cocuzza Avellino, I. Calìò, F. Cannizzaro, S. Caddemi, N. Impollonia, *Response spectra of rigid blocks with uncertain behavior*. Compdyn 2019 - Proceedings of the 7th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete (Greece) 24-26 June **2019**.
- IC-27 S. Caddemi, I. Calìò, F. Cannizzaro, D. Rapicavoli, B. Pantò, G. Occhipinti, D. D'Urso, L. Corti, G. Spirolazzi, R. Zurlo, *An automatic DME based procedure for the structural assessment of railway masonry arch bridges*. REHABEND 2020, 8th Euro-American Congress on Construction Pathology, Rehabilitation Technology and Heritage Management, Granada (Spain) March 24-27 March **2020**.

National journal papers

- NJ-1. I. Calìò, F. Cannizzaro, G. Occhipinti, B. Pantò, D. Rapicavoli, D. D'Urso, G. Pisanelli, G. Spirolazzi, R. Zurlo. *Ponti ferroviari ad arco: metodologia per l'analisi tridimensionale nonlineare*. Infrastruttura
- NJ-2 D. Rapicavoli, F. Cannizzaro, B. Pantò, S. Caddemi, I. Calìò. *La valutazione della capacità portante di ponti ad arco in muratura mediante un approccio parametrico per macro-elementi*. DIGITAL MODELING – N°22
- NJ-3 D. Rapicavoli, F. Cannizzaro, B. Pantò, S. Caddemi, I. Calìò. *La sicurezza strutturale di ponti ad arco in muratura – modellazione speditiva e analisi nonlineare a macro-elementi con il software HiStrA Bridges*. Strade e Autostrade – N°139

Journal papers

- J-1. I. Calìò, F. Cannizzaro, M. Marletta. *A Discrete-Element for modeling masonry vaults*. Advanced Materials Research Vols. 133-134 (2010) pp 447-452, ISSN: 1662-8985, doi: 10.4028/www.scientific.net/AMR.133-134.447
- J-2. S. Caddemi, I. Calìò, F. Cannizzaro, M. Marletta, B. Pantò. *Seismic Vulnerability of the Concordia Temple*. Advanced Materials Research Vols. 133-134 (2010) pp 759-764, ISSN: 1662-8985, doi: 10.4028/www.scientific.net/AMR.133-134.759
- J-3. Caddemi, S., Calìò, I., Cannizzaro, F. *Closed-form solutions for stepped Timoshenko beams with internal singularities and along-axis external supports* (2013) Archive of Applied Mechanics 83(4) 559-577, ISSN: 0939-1533, doi: 10.1007/s00419-012-0704-7
- J-4. Caddemi, S., Calìò, I., Cannizzaro, F. *The influence of multiple cracks on tensile and compressive buckling of shear deformable beams* (2013) – International Journal of Solids and Structures 50 3166-3183, ISSN: 0020-7683, doi: 10.1016/j.ijsolstr.2013.05.023
- J-5. Caddemi, S., Calìò, I., Cannizzaro, F., Rapticavoli, D., *A novel beam finite element with singularities for the dynamic analysis of damaged frames* (2013) –Archive of Applied Mechanics 83(10) 1451-1468, ISSN: 0939-1533, doi: 10.1007/s00419-013-0757-2
- J-6. S. Caddemi, I. Calìò, F. Cannizzaro, *Flutter and divergence instability of the multi-cracked cantilever beam-column* – (2014) Journal of Sound and Vibration 333(6) 1718-1733, ISSN: 0022-460X, doi: 10.1016/j.jsv.2013.10.039
- J-7. Caddemi, S., Calìò, I., Cannizzaro, F. *Tensile and compressive buckling of columns with shear deformation singularities* (2014) Meccanica, 50 (3), pp. 707-720.
- J-8. Caddemi, S., Calìò, I., Cannizzaro, F. *Influence of an elastic end support on the dynamic stability of Beck's column with multiple weak sections* (2015) International Journal of Non-Linear Mechanics, 69, pp. 14-28.
- J-9. S. Caddemi, I. Calìò, F. Cannizzaro, *Advances in dynamic instability: Can a beam-column undergo tensile flutter?* – (2017) Journal of Vibration and Control, 23(8), pp. 1309-1320 doi: 10.1177/1077546315592532
- J-10. B. Pantò, F. Cannizzaro, S. Caddemi, I. Calìò, *3D macro-element modelling approach for seismic assessment of historical masonry churches* – (2016) Advances in Engineering Software, 97, pp. 40-59
- J-11. S. Caddemi, I. Calìò, F. Cannizzaro, *On the dynamic stability of shear deformable beams under a tensile load* – (2016) Journal of Sound and Vibration, 373, 89-103.
- J-12. F. Cannizzaro, P.B.Lourenço, *Simulation of Shake Table Tests on Out-of-Plane Masonry Buildings. Part (VI): Discrete Element Approach* – (2017) International Journal of Architectural Heritage, 11(1), pp. 125-142 doi: <http://dx.doi.org/10.1080/15583058.2016.1238973>.
- J-13. A. Greco, F. Cannizzaro, A. Pluchino, *Seismic collapse prediction of frame structures by means of genetic algorithms* – (2017) Engineering Structures, 143, pp. 152-168 doi: <https://doi.org/10.1016/j.engstruct.2017.03.075>.
- J-14. B. Pantò, F. Cannizzaro, I. Calìò, P.B. Lourenço *Numerical and experimental validation of a 3D macro-model for the in-plane and out-of-plane behaviour of unreinforced masonry walls* – (2017) International Journal of Architectural Heritage, 11(7), pp.946-964 doi: 10.1080/15583058.2017.1325539.
- J-15. F. Cannizzaro, A. Greco, S. Caddemi, I. Calìò *Closed form solutions of a multi-cracked circular arch under static loads* – (2017) International Journal of Solids and Structures, 11, pp. 191-200 doi: 10.1016/j.ijsolstr.2017.05.026
- J-16. S.Caddemi, I.Calìò, F. Cannizzaro *The Dynamic Stiffness Matrix (DSM) of axially loaded multi-cracked frames* – (2017) Mechanics Research Communications, 24, pp. 90-97, doi: <https://doi.org/10.1016/j.mechrescom.2017.06.012>.
- J-17. S. Caddemi, I. Calìò, F. Cannizzaro, B. Pantò *New Frontiers on Seismic Modeling of Masonry Structures* - (2017) Frontiers in Built Environment, doi: 10.3389/fbuil.2017.00039
- J-18. B. Pantò, F. Cannizzaro, S. Caddemi, I. Calìò, C. Chàcara, P.B. Lourenço *Nonlinear Modelling of Curved Masonry Structures after Seismic Retrofit through FRP Reinforcing* (2017) Buildings, 7(3), 79; doi:10.3390/buildings7030079
- J-19. F. Cannizzaro, J. De Los Rios, S. Caddemi, I. Calìò, S. Ilanko *Crack localization in beams by frequency shifts due to roving mass with rotary inertia* (2017) Procedia Engineering, 199, pp. 900-905; <https://doi.org/10.1016/j.proeng.2017.09.229>
- J-20. F. Cannizzaro, B. Pantò, M. Lepidi, S. Caddemi, I. Calìò *Multi-directional seismic assessment of historical masonry buildings by means of macro-element modeling: application to a building damaged during the L'Aquila Earthquake (Italy)* (2017) Buildings, 7(4), 106; doi:10.3390/buildings7040106

- J-21. A. Greco, D. D'Urso, F. Cannizzaro, A. Pluchino *Damage identification on spatial Timoshenko arches by means of genetic algorithms* (2018) *Mechanical Systems and Signal Processing*, 105, 51-67; <https://doi.org/10.1016/j.ymssp.2017.11.040>
- J-22. A. Greco, A. Pluchino, F. Cannizzaro, S. Caddemi, I. Calìò *Closed-form solution based Genetic Algorithm Software: Application to multiple cracks detection on beam structures by static tests* (2018) *Applied Soft Computing*, 64, pp. 35-48; <https://doi.org/10.1016/j.asoc.2017.11.040>
- J-23. A. Greco, F. Cannizzaro, A. Pluchino, *Automatic evaluation of plastic collapse conditions for planar frames with vertical irregularities* – (2019) *Engineering with Computers*, 35, pp. 57-73; doi: <https://doi.org/10.1007/s00366-018-0583-9>.
- J-24. F. Cannizzaro, J. De Los Rios, S. Caddemi, I. Calìò, S. Ilanko, *On the use of a roving body with rotary inertia to locate cracks in beams* - (2018) *Journal of Sound and Vibration*, 425, pp. 275-300; <https://doi.org/10.1016/j.jsv.2018.03.020>
- J-25. F. Cannizzaro, B. Pantò, S. Caddemi, I. Calìò, *A Discrete Macro-Element Method (DMEM) for the nonlinear structural assessment of masonry arches* - (2018) *Engineering Structures*, 168, pp. 243-256; <https://doi.org/10.1016/j.engstruct.2018.04.006>
- J-26. S. Caddemi, I. Calìò, F. Cannizzaro, A. Morassi, *A procedure for the identification of multiple cracks on beams and frames by static measurements* - (2018) *Structural Control and Health Monitoring*, available online 30 May 2018; <https://doi.org/10.1002/stc.2194>
- J-27. C. Chàcara, F. Cannizzaro, B. Pantò, I. Calìò, P.B. Lourenço, *Assessment of the dynamic response of unreinforced masonry structures using a macroelement modeling approach*. *Earthquake Engineering and Structural Dynamics* (2018); <https://doi.org/10.1002/eqe.3091>
- J-28. A. Greco, A. Pluchino, S. Caddemi, I. Calìò, F. Cannizzaro, *On profile reconstruction of Euler-Bernoulli beams by means of an energy based genetic algorithm* – (2019) *Engineering with Computers*; <https://doi.org/10.1007/s00366-018-00693-x>
- J-29. A. Greco, A. Pluchino, F. Cannizzaro, *An Improved Ant Colony Optimization Algorithm and its Applications to Limit Analysis of Frame Structures* – (2019) *Engineering Optimization*, 51(11), pp. 1867-1883 DOI: 10.1080/0305215X.2018.1560437.
- J-30. C. Chàcara, F. Cannizzaro, B. Pantò, I. Calìò, P.B. Lourenço, *Seismic vulnerability of URM structures based on a Discrete Macro-Element Modeling (DMEM) approach* – (2019) *Engineering Structures*, 201, <https://doi.org/10.1016/j.engstruct.2019.109715>.

Invited Chapters in Edited Books

- B-1. I. Calìò, F. Cannizzaro, E. D' Amore, M. Marletta, B. Pantò. *A new macro-element approach for the assessment of the seismic resistance of mixed reinforced concrete-masonry buildings: application to a case study (Un Nuovo approccio ai Macro-Elementi per la stima della resistenza sismica di edifici in struttura mista muratura - calcestruzzo armato: applicazioni ad un caso di studio)*. In: *Assessment and Reduction of the Seismic Vulnerability of existing r.c. buildings (Valutazione e Riduzione della Vulnerabilità Sismica di Edifici Esistenti in C.A.)*, by E. Cosenza, G. Manfredi, G. Monti. Edited by Polimetrica (International Scientific Publisher). ISBN 978-88-7699-130-1.
- B-2. I. Calìò, F. Cannizzaro, R. Caponetto, M. Intelisano, G. Margani, M. Marletta, B. Pantò. *Report on the conditions of the building named "Palazzo Gualtieri" after the earthquake near L'Aquila (Italy) of the 6 April 2009 (Report sullo stato dell'edificio denominato "Palazzo Gualtieri" a seguito dell'evento sismico del 6 aprile 2009 presso L'Aquila)*. In: *University and research for Abruzzo. The building heritage after the earthquake of the 6 April 2009 (L'università e la ricerca per L'Abruzzo. Il patrimonio edilizio dopo il terremoto del 6 Aprile 2009)*, by: Lucia Milano, Carmela Morisi, Chiara Calderini, Adalgisa Donatelli (Textus editions). With the sponsorship of: Presidenza del Consiglio dei Ministri, Commissario delegato per la Ricostruzione, Vice Commissario delegato per la tutela dei Beni Culturali, ISBN: 978-88-87132-80-9
- B-3. S. Caddemi, I. Calìò, F. Cannizzaro, B. Pantò, D. Rapicavoli. *Discrete macroelement modeling*. In: *Numerical modeling of masonry and historical structures: from theory to application*, by: Bahman Ghiassi, Gabriele Milani (Elsevier). ISBN: 978-0-08-102439-3 (print) ISBN: 978-0-08-102440-9 (online)