

FRANCESCO CANNIZZARO'S CURRICULUM VITAE



PERSONAL DATA

Name and Surname
Postal Address
E-mail
Website
Nationality
Date of birth

Francesco Cannizzaro
Via Vitaliti, 4, Catania (CT), 95125
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Italian
01 September 1981

EDUCATION AND QUALIFICATIONS

Qualification as Full Professor

Mechanics of Structures - SSD CEAR-06/A (Abilitazione Scientifica Nazionale 2023-2025), from July 10th 2025.

Qualification as Associate
Professor

Mechanics of Structures - SSD CEAR-06/A (Abilitazione Scientifica Nazionale 2016-2018), from December 5th 2017.

Teaching fellow (Cultore della
Materia)

He was appointed as “Cultore della materia Scienza delle Costruzioni” (Mechanics of structures - SSD CEAR-06/A) at Faculty of Engineering at the University of Catania.

Doctor of Philosophy

He obtained his PhD on April 4th 2011 in “*Structural Engineering*” – cycle XXIII at the University of Catania with the doctoral thesis entitled “*Studio del comportamento sismico degli edifici storici: un approccio ai macro-elementi*”, (*Study of the seismic behaviour of historical buildings: a macro-element approach*) supervisor: Prof. I. Calìo.

Qualification for Engineering
professional practice

On July 2007 he obtained the Qualification for Engineering professional practice at the University of Catania.

Master Degree

On January 22nd 2017 he received his Master Degree in Civil Engineering (LM-23) at the University of Catania with a grade of 110/110 (5-year programme, equivalent to a 1st-class joint BEng+MSc), with a thesis entitled “*Un nuovo approccio ai macro-elementi per lo studio del comportamento sismico delle volte in muratura*” (*A new macro-element approach for the study of the seismic behaviour of masonry vaults*), supervisors Prof. I. Calìo.

Secondary school diploma

On 2000 he received his secondary school diploma – Scientific Order at “Liceo Scientifico Statale E. Majorana” in Caltagirone (CT) with a grade of 100/100. During the five years of the high school, he took part in numerous regional competitions concerning the subject areas of Maths, Physics, receiving numerous awards, and participated to the national Olympics in maths.

CURRENT POSITION

Associate professor

Associate professor at the University of Catania (Department of Civil Engineering and Architecture) in the field of Mechanics of Structures (scientific-disciplinary sector CEAR-06/A “Scienza delle Costruzioni”) (from **March 2nd 2023** to date).

PROFESSIONAL ACTIVITY AND MEMBERSHIPS

Registration in “Ordine degli
Ingegneri”

Since November 2007 he is member of Register of Engineers of the Province of Catania (“Ordine degli Ingegneri della Provincia di Catania”), N. 5679 of the professional register.

PAST WORKING EXPERIENCES

Researcher (type B)	Researcher (type B) at the University of Catania (Department of Civil Engineering and Architecture) in the field of Mechanics of Structures (scientific-disciplinary sector CEAR-06/A “Scienza delle Costruzioni”) (from March 2nd 2020 to March 1st 2023).
Researcher (type A)	Researcher (type A) at the University of Catania (Department of Civil Engineering and Architecture) in the field of Mechanics of Structures (scientific-disciplinary sector CEAR-06/A “Scienza delle Costruzioni”) (from May 2nd 2018 to March 1st 2020).
Research fellow	Research fellow at the University of Catania (Department of Civil Engineering and Architecture) in the field of Mechanics of Structures (scientific-disciplinary sector CEAR-06/A “Scienza delle Costruzioni”) within a research project entitled <i>Il patrimonio storico monumentale – metodi per la stima e la mitigazione del rischio sismico (Historical and monumental heritage – methods for the assessment and the mitigation of risk)</i> (from March 2015 to March 2018).
Research contract	Research collaboration with the University of Catania (Department of Civil Engineering and Architecture) entitled <i>Implementazione di modelli di calcolo per la vulnerabilità sismica di edifici storici (Implementation of numerical models for the seismic assessment of historical buildings)</i> within the ReLUIS project (from January 2015 to March 2015)
Research contract	Research collaboration with the University of Catania (Department of Civil Engineering and Architecture) entitled <i>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 (Specialistic consultancy for the implementation of finite element models of the building of the faculty of law in via Gallo in the current and design configurations with seismic isolation)</i> within the retrofitting design of the building of the faculty of law of the University of Catania (from April 2014 to July 2014)
Research contract	Research collaboration with the University of Catania (Department of Civil and Environmental Engineering) entitled <i>Modellazione agli elementi finiti di edifici in muratura (Finite element modelling of masonry buildings)</i> within the ReLUIS project (from September 2013 to December 2013)
Research scholarship	Research scholarship with the University of Pisa (Department of Energy, Systems, Territory and Buildings Engineering) entitled <i>Modelli numerici per il monitoraggio sismico di edifici in muratura e c.a. (Numerical models for the seismic monitoring of masonry and r.c. buildings)</i> within the ReLUIS project (from January 2013 to September 2013)
Research contract	Research collaboration with the University of Catania (Department of Civil and Environmental Engineering) entitled <i>Modellazione agli elementi finiti di procedure di prova orientate alla determinazione della resistenza a taglio in situ di edifici in muratura (Finite element modelling of in situ tests oriented to the evaluation of the shear strength of masonry buildings)</i> within the ReLUIS project (from February 2012 to August 2012)
Research scholarship	Research scholarship with the University of Catania (Department of Civil and Environmental Engineering) entitled <i>Metodi innovativi di indagini in situ finalizzate alla caratterizzazione delle proprietà meccaniche di murature storiche (Novel methods of in situ tests oriented to the mechanical characterization of historical masonry)</i> (from April 2011 to November 2011)

TEACHING ACTIVITY (UNIVERSITY COURSES)

Dynamics of Structures with Application to Earthquake Engineering	He held part of the course of “ <i>Dynamics of Structures with Application to Earthquake Engineering</i> ” (27 hours - 3 CFU 2024/25 and 60 hours - 6 CFU 2025/2026) within the with the course of Civil Structural and Geotechnical Engineering at the University of Catania (Academic years 2024/2025 to date)
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Meccanica dei Solidi e delle Strutture (Mechanics of Solids and Structures)	He held part of the course of “ <i>Meccanica dei Solidi e delle Strutture</i> ” (<i>Mechanics of Solids and Structures</i>) (13 hours - 1 CFU) within the with the course of Engineering for the Ecological Transition at the University of Catania (Academic years 2025/26 to date)
Statica (Statics)	He held the module of Statics (64 hours - 8 CFU) within the course of “ <i>Fondamenti di meccanica e statica</i> ” (<i>Introduction to structural mechanics</i>) within the course of Architecture at the University of Catania (Academic years 2019/20 to date)
Seismic structural analysis and design	He held the course of “ <i>Seismic structural analysis and design</i> ” (48 hours - 6 CFU) within the course of Architecture at the University of Catania (Academic years 2024/25 to date)
Laboratorio sull’uso dei software nell’ingegneria strutturale (Lab on the use of software tools in structural engineering)	He held part of the course of “ <i>Laboratorio sull’uso dei software nell’ingegneria strutturale</i> ” (<i>Lab on the use of software tools in structural engineering</i>) (15 hours - 1 CFU) within the with the course of Civil Structural and Geotechnical Engineering at the University of Catania (Academic year 2024/25)
Moderne tecniche di progettazione antisismica (Seismic structural analysis and design)	He held the course of “ <i>Moderne tecniche di progettazione antisismica</i> ” (<i>Seismic structural analysis and design</i>) (48 hours - 6 CFU) within the course of Architecture at the University of Catania (Academic year 2023/24)
Laboratorio su Strategie di modellazione numerica per la valutazione della vulnerabilità degli edifici esistenti (Lab on Numerical modelling strategies for the assessment of the vulnerability of existing buildings)	He held part of the course of “ <i>Laboratorio su Strategie di modellazione numerica per la valutazione della vulnerabilità degli edifici esistenti</i> ” (<i>Lab on Numerical modelling strategies for the assessment of the vulnerability of existing buildings</i>) (30 hours - 2 CFU) within the with the course of Civil Structural and Geotechnical Engineering at the University of Catania (Academic year 2023/24)
• Laboratorio di Dinamica delle Strutture con applicazioni d’ingegneria sismica (Lab of Dynamics of Structures with application to Earthquake Engineering)	He held part of the course of “ <i>Laboratorio di Dinamica delle Strutture con applicazioni d’ingegneria sismica</i> ” (<i>Lab of Dynamics of Structures with application to Earthquake Engineering</i>) (15 hours - 1 CFU) within the with the course of Civil Structural and Geotechnical Engineering at the University of Catania (Academic year 2022/23)
Statics	He held the module of Statics (64 hours - 8 CFU) within the course of “ <i>Introduction to structural mechanics</i> ” within the course of Architecture at the University of Catania (Academic years 2020/21 to 2022/2023)
Statica (Statics)	He held the course of “ <i>Statica</i> ” (<i>Statics</i>) (80 hours - 8 CFU) within the course of Architecture at the University of Catania (Academic year 2018/19)
Meccanica delle strutture (Mechanics of structures)	He held the module of Mechanics of Structures (40 hours - 4 CFU) within the course of “ <i>Laboratorio di Costruzioni</i> ” (<i>Lab of constructions</i>) within the course of Architecture at the University of Catania (Academic years 2017/18 to 2019/2020)
Dinamica delle strutture (Dynamics of structures)	He held the module of Dynamics of Structures (70 hours - 7 CFU 2015/16 and 60 hours - 6 CFU 2016/17) within the course of “ <i>Dynamics of structures in seismic areas</i> ” within the course of Building Engineering at the University of Catania (Academic years 2015/16 to 2016/2017)
Scienza delle Costruzioni (Mechanics of Structures)	He held the course of “ <i>Scienza delle Costruzioni</i> ” (<i>Mechanics of Structures</i>) (60 hours) within the course of Building Engineering at the University of Catania (Academic year 2014/15)

OTHER TEACHING ACTIVITY AT UNIVERSITIES

Summer school	He took part as teacher to the summer school on “ <i>Riqualificazione sismo-energetica degli edifici storici - Il caso studio delle abitazioni eoliane</i> ” (<i>Seismic and energetic</i>)
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	<i>riqualification of historical buildings – The case of eolian houses</i>) organized by University of Catania and Fondazione dell’Ordine degli Ingegneri della Provincia di Catania, Filicudi Island, September 15-18 2022
Second level master	He took part as teacher to the post-graduation master course on “ <i>Sicurezza antincendio e fire engineering</i> ” (<i>Fire safety and engineering</i>) at the University of Catania (Academic year 2020/21)
PhD Course	He held the course of “ <i>Le strutture in muratura - dalla conoscenza all'adeguamento sismico</i> ” (<i>Masonry structures – from the knowledge to the seismic strengthening</i>) (28 hours) within the PhD course of Civil environmental and Material Engineering at the University of Palermo (from June 15th 2017 to 27th July 2017)
Seminar	“ <i>The seismic assessment of historical masonry structures: a discrete-element approach</i> ” University of Minho, Guimarães (Portugal), January 7 th 2015
OTHER EDUCATIONAL ACTIVITY	
Member of Doctoral board	He is member of the Doctoral board in “ <i>Valutazione dei rischi urbani e territoriali</i> ” (Assessment of urban and territorial risks) at the University of Catania (Academic years 2020/21 to date – Cycles from XXXVI to XLI)
Member of the panel for professional license as engineer	Aggregate component of the panel for the state examination for professional license as engineer at the University of Catania (2020)
PhD theses	He supervised 2 PhD theses (ongoing) co-supervised 3 PhD theses: <ol style="list-style-type: none"> 1. Davide Rapicavoli: <i>L’uso delle funzioni generalizzate per la formulazione di elementi finiti di travi inomogenee ed inelastiche</i>. PhD thesis in Structural and Geotechnical Engineering (cycle XXV), University of Catania - 2013 (Tutor Prof. I. Calì). 2. Giuseppe Cocuzza Avellino: <i>Seismic Protection of Art Objects: experimental investigations and applications on rigid bodies</i>. PhD thesis in Evaluation and Mitigation of Urban and Land Risks (cycle XXXIII), University of Catania - 2018 (Tutor Prof. N. Impollonia). 3. Alessia Di Martino: <i>Monitoraggio e Protezione Sismica dei Beni Esposti in Siti Museali - Strategie per la valutazione della vulnerabilità e la mitigazione del rischio sismico dei beni culturali mobili in ambiente confinato</i> PhD thesis in Architecture (cycle XXXVII), University of Reggio Calabria – 2024 (Tutor Prof. N. Impollonia). 4. Monia Spagna: PhD thesis in Defense against natural risks and ecological transition of built environment (cycle XXXVIII), National PhD course (Tutor Proff. I. Calì and F. Cannizzaro) 5. Carla Crocellà: PhD thesis in Defense against natural risks and ecological transition of built environment (cycle XL), National PhD course (Tutor Proff. I. Calì and F. Cannizzaro)
Master theses	He supervised 9 Master Degree theses: <ol style="list-style-type: none"> 1. Roberto Leone <i>Valutazione della vulnerabilità sismica di chiese ad aula unica a Modica (RG): anamnesi e proposte di miglioramento sismico</i>, Building Engineering, University of Catania – Academic year 2017-2018. 2. William Leni <i>La Calibrazione di Modelli Numerici di Edifici in Muratura a Partire dalle Proprietà Dinamiche Sperimentali. Applicazione al Palazzo degli Elefanti</i>, Building Engineering, University of Catania - Academic year 2019-2020. 3. Giuliana Montera <i>Dalla Caserma Abela alla Sede Della Scuola di Architettura dell'Università di Catania. L'intervento Strutturale nel Progetto di Adeguamento Funzionale</i>, Architecture, University of Catania - Academic year 2019-2020. 4. Enrico Cugnata <i>Approcci parametrici per la rigenerazione di serbatoi urbani</i>, Architecture, University of Catania - Academic year 2019-2020. 5. Valeria Sorbello <i>Progettazione Parametrica di Coperture di Grande Luce a Superficie Irregolare</i>, Architecture, University of Catania - Academic year

2019-2020.

6. Miriam Anastasia Sardo *Siculorum Gymnasium. Dalla conoscenza alla valutazione della sicurezza sismica*, Architecture, University of Catania - Academic year 2020-2021.
7. Davide Maltese *Modellazione a macro-elementi di strutture in calcestruzzo armato: Applicazione al ponte San Giovanni XXIII di Ragusa*, Structural and Geotechnical Civil Engineering, University of Catania - Academic year 2021-2022.
8. Carla Crocellà *Retrofitting sismico ed energetico degli edifici esistenti in c.a. attraverso l'uso dei blocchi in calcestruzzo alveolare. applicazione ad un caso studio*, Structural and Geotechnical Civil Engineering, University of Catania - Academic year 2023-2024.
9. Giorgia Campisi *Un nuovo macro-elemento solido discreto per la modellazione strutturale: prime validazioni e confronti in ambito lineare e non lineare*, Structural and Geotechnical Civil Engineering, University of Catania - Academic year 2023-2024.

He co-supervised 18 Master Degree theses:

1. Martina Leggio *Vulnerabilità sismica del Tempio della Concordia*. Civil Engineering, University of Catania - Academic year 2008-2009.
2. Maria Canto *Analisi statica di un arco con proprietà meccaniche non omogenee*. Civil Engineering, University of Catania – Academic year 2008-2009.
3. Antonio Medulla *Adeguamento sismico di un edificio esistente in cemento armato mediante dissipatori viscosi*. Structural Engineering, University of Catania - Academic year 2010-2011.
4. Giorgio Sammito *Adeguamento sismico di un edificio esistente in cemento armato mediante isolamento sismico*. Structural Engineering, University of Catania - Academic year 2010-2011.
5. Giuseppe Fidotta *Analisi della risposta dinamica della trave inelastica mediante elementi finiti a plasticità diffusa*. Structural Engineering, University of Catania - Academic year 2011-2012.
6. Salvatore Greco *Il ruolo dei rinfianchi nella stabilità delle volte in muratura*. Structural and Geotechnical Civil Engineering, University of Catania - Academic year 2012-2013.
7. Damiano Emanuele *Confronto tra alcuni modelli di calcolo nella valutazione della risposta statica di strutture a geometria curva*. Civil and Environmental Engineering, University of Catania - Academic year 2014-2015.
8. Vincenzo Sergio Vespo: *Comportamento statico di travi ad asse curvilineo*. Civil and Environmental Engineering, University of Catania – Academic year 2014-2015.
9. Orazio Failla *Identificazione statica di danni strutturali in una trave di Eulero-Bernoulli*. Civil and Environmental Engineering, University of Catania - Academic year 2015-2016.
10. Nunzio Catania *Analisi statica di travi a sezione variabile: problema diretto e inverso*. Civil and Environmental Engineering, University of Catania - Academic year 2015-2016.
11. Gessica Alecci: *A Fiber Generalized Displacement Based (FGDB) Beam Element for Inelastic Analysis of Beams Accounting for Axial-Flexural-Shear Interaction*, Structural and Geotechnical Civil Engineering, University of Catania - Academic year 2016-2017.
12. Maria Laura Leonardi *Dalla Caserma Abela alla Sede Della Scuola di Architettura dell'Università di Catania. L'intervento Strutturale nel Progetto di Adeguamento Funzionale*, Architecture, University of Catania - Academic year 2019-2020.
13. Mario Di Mauro *“La Modellazione Meccanica del Patrimonio costruito Storico: l'Approccio ai Macroelementi applicato all'ex Convento di S. Maria di Gesù in Belpasso (CT)”*, Building Engineering, University of Catania - Academic year 2019-2020.
14. Giulia Mallia *Adeguamento sismico degli immobili con funzione strategica di proprietà dello Stato*, Architecture, University of Catania - Academic year 2019-2020.
15. Alessia Di Martino *Protezione sismica degli oggetti d'arte: applicazioni alla Venere Landolina*, Architecture, University of Catania – Academic year 2020-

2021.

16. Fausta Dugo *Strategie di miglioramento sismico in ambito ospedaliero con limitata interruzione sulle attività sanitarie in corso: il caso dell'ospedale degli infermi di Rivoli (TO)*, Architecture, University of Catania - Academic year 2021-2022
17. Gessica Volpe: *Classificazione e valutazione della sicurezza di ponti esistenti in Italia: quindici casi di studio in provincia di Avellino*, Building Engineering, University of Napoli "Federico II" - Academic year 2023-2024
18. Antonio Emanuele Messina: *MWK Elementi Costruttivi Funzionali a Geometria Riconfigurabile*, Building Engineering, University of Catania – Academic year 2023-2024

VISITING PERIODS AT OTHER INSTITUTIONS

Visiting professor at the Strathclyde University

He spent a visiting period at the Department of Civil and Environmental Engineering at the Strathclyde University (from **April 2025** to **May 2025**) collaborating with prof. E. Tubaldi

Visiting research fellow at the University of Udine

He spent a visiting period at the Polytechnic Department of Engineering and Architecture at the University of Udine (**January 2017**) collaborating with prof. A. Morassi

Visiting research fellow at the University of Minho

He spent a visiting period at the Department of Civil Engineering at the University of Minho (from **January 2015** to **February 2015**) collaborating with prof. P.B. Lourenço

Visiting PhD presso l'University of Minho

He spent a visiting period at the Department of Civil Engineering at the University of Minho (from **September 2015** to **October 2015**) collaborating with prof. P.B. Lourenço

RESEARCH PROJECTS

Coordination and responsibility within research projects

He has coordinated the following research projects:

- Local projects (University of Catania):
 - Piano per la Ricerca di Ateneo **2020-2022** (Pia.ce.ri.): *FRCM-masonry Interaction: a novel approach for modelling the BEhaviour of Retrofitted Historical Masonry Structures (FIBER-HMS)*". PI: Prof. F. Cannizzaro
 - Piano per la Ricerca di Ateneo **2024-2026** (Pia.ce.ri.): *"TEcniche software di supporto per Analisi di big data negli ambiti Medico, energetico e delle Strutture (TEAMS)*. PI: Prof. Emilio Tramontana
PI_D: Prof. F. Cannizzaro
- National relevance project:
 - He was coordinator of the Research Unit of Catania (with Prof. I. Calì) of the ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) project on *WP10 Uso dei software di calcolo nella verifica sismica degli edifici in muratura*, financed by the Civil Protection (**2024-2026**).
 - He is scientific coordinator (together with Proff. I. Calì, L. Cavallaro, E. Foti and G. Pappalardo) within the collaboration between the University of Catania and the FABRE consortium.
- International relevance projects:
 - Collaboration agreement between University of Catania and University of Durham: *New sustainable techniques for optimised unreinforced masonry structures: structural tests*. Scientific coordinators: Prof. F. Cannizzaro (Catania), Prof. Bartolomeo Pantò (Durham) (**2024-2025**)

Participation to research projects as member

Member of the Research Unit of Catania (coordinator Prof. I. Calì) of the ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) project on *WP5 Interventi di rapida esecuzione e a basso impatto*, funded by the Civil Protection (**2024-2026**).

Member of the Research Unit of Catania (coordinator Prof. I. Calì) of the PRIN2022PNRR project on *Safer Architectural Heritage Assets through Risk Assessment - SAHARA project*, (PI Prof. I. Calì) (2023-2026).

Member of the Research Unit of Catania (coordinator Prof. I. Calì) of the ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) project on *WP5 Interventi di rapida esecuzione e a basso impatto* and *WP10 Uso dei software di calcolo nella verifica sismica degli edifici in muratura*, funded by the Civil Protection (2019-2021 and 2022-2024).

Member of the Research Unit of Catania (coordinated by Prof. A. Greco) for the project PRIN2020 entitled *Sustainable modelling of materials, structures and urban spaces including economic-legal implications*, (PI Prof. V. Salomoni) (2020-2023).

Member of the project *TEcniche software di supporto per Analisi di big data negli ambiti Medico, energetico e delle Strutture (TEAMS)* within Piano per la Ricerca di Ateneo 2020-2022 (Pia.ce.ri.), (PI Prof. E. Tramontana) (2020-2022)

Member of the Research Unit of the Department of Civil Engineering and Architecture of the University of Catania (coordinated by Prof. V. Sapienza) within the project *An Early warning System for Cultural Heritage (eWAS)*, (PI Dott. D. Patanè) (2018-2022).

Member of the Research Unit of the Department of Civil Engineering and Architecture of the University of Catania (coordinated by Proff. S. Caddemi and I. Calì) within the project *Advanced Green Materials for Cultural Heritage (AGM for CuHe)*, (PI Proff. G. Barone and P. Mazzoleni) (2018-2022).

Member of the Research Unit of Catania (coordinated by Prof. S. Caddemi) for the project PRIN2015 entitled *Advanced mechanical modelling approach of innovative materials and structures for the solution of 2020 Horizon challenges*, (PI Prof. M. Di Paola) (2014-2017).

Member of the Research Unit of Catania (coordinator Prof. I. Calì) of the ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) project on *Qualità muraria, proprietà meccaniche delle murature, indagini diagnostiche* and *Analisi della risposta sismica delle costruzioni in muratura*, funded by the Civil Protection (2014-2017).

Member of the Research Unit of Catania (coordinator Prof. I. Calì) of a research project *Adeguamento sismico di edifici esistenti in calcestruzzo armato* funded by ANCE Catania (Associazione Nazionale Costruttori Edili) (2016).

Member of the FIR2014 project (coordinator prof. I. Calì) on *La vulnerabilità sismica degli edifici storici in aggregato. Nuove metodologie negli approcci speditivi e di modellazione strutturale*, funded by the University of Catania (2014).

Member of the Research Unit of Catania (coordinator Prof. I. Calì) of the ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) project on *Indagini in situ di costruzioni in muratura*, funded by the Civil Protection (2009-2012).

Member of the Research Unit of Catania (coordinator Prof. I. Calì) of Programme 1 of the ReLUIIS (Rete dei Laboratori Universitari di Ingegneria Sismica) project on masonry buildings, funded by the Civil Protection (2005-2008).

CONSULTANCIES AND RESEARCH AGREEMENTS

Research agreement

Scientific coordinator (together with Prof. Ivo Calì) for the research agreement entitled *WP10 Uso dei software di calcolo nella verifica sismica degli edifici in muratura* between University of Catania and ReLUIIS consortium (Euro 16.500,00) (2024-2026)

Research agreement

Scientific coordinator (together with Prof. Ivo Calì) for the research agreement entitled *Attività di ricerca, di studio, di sperimentazione, di aggiornamento culturale, necessarie ad assicurare adeguato supporto tecnico-scientifico per la validazione*

degli aspetti attinenti alla Convenzione ex. Art 15 L241/90 stipulata dal Consorzio FABRE con Anas S.p.A. (identificativo FABRE: ANAS-LLGG- SHM) between University of Catania and FABRE consortium (Euro 19.932,00) (2025-2026)

FUNDED RESEARCH PROJECTS

Four-year funding (together with ing. B. Pantò) for the creation of an innovative startup based on the project "HISTRA (Historical STRuctural Analysis)" within the call "Smart & Start - Information technologies and valuing of research" total funding: € 182.000,00 (2014)

PUBLICATIONS

Journal papers

- J-1. I. Calìo, F. Cannizzaro, M. Marletta, *A Discrete-Element for modeling masonry vaults* – (2010) *Advanced Materials Research*, 133-134, pp. 447-452, ISSN: 1662-8985, DOI: 10.4028/www.scientific.net/AMR.133-134.447
- J-2. S. Caddemi, I. Calìo, F. Cannizzaro, M. Marletta, B. Pantò, *Seismic Vulnerability of the Concordia Temple* - (2010) *Advanced Materials Research*, 133-134 pp. 759-764, ISSN: 1662-8985, DOI: 10.4028/www.scientific.net/AMR.133-134.759
- J-3. S. Caddemi, I. Calìo, F. Cannizzaro, *Closed-form solutions for stepped Timoshenko beams with internal singularities and along-axis external supports* - (2013) *Archive of Applied Mechanics*, 83(4), pp. 559-577, ISSN: 0939-1533, DOI: 10.1007/s00419-012-0704-7
- J-4. S. Caddemi, I. Calìo, F. Cannizzaro, *The influence of multiple cracks on tensile and compressive buckling of shear deformable beams* - (2013) *International Journal of Solids and Structures*, 50, pp. 3166-3183, ISSN: 0020-7683, DOI: 10.1016/j.ijsolstr.2013.05.023
- J-5. S. Caddemi, I. Calìo, F. Cannizzaro, D. Rapicavoli, *A novel beam finite element with singularities for the dynamic analysis of damaged frames* - (2013) *Archive of Applied Mechanics*, 83(10), pp. 1451-1468, ISSN: 0939-1533, DOI: 10.1007/s00419-013-0757-2
- J-6. S. Caddemi, I. Calìo, F. Cannizzaro, *Flutter and divergence instability of the multi-cracked cantilever beam-column* – (2014) *Journal of Sound and Vibration*, 333(6), pp. 1718-1733, ISSN: 0022-460X, DOI: 10.1016/j.jsv.2013.10.039
- J-7. S. Caddemi, I. Calìo, F. Cannizzaro, *Tensile and compressive buckling of columns with shear deformation singularities* - (2014) *Meccanica*, 50 (3), pp. 707-720, DOI: 10.1007/s11012-014-9964-3
- J-8. S. Caddemi, I. Calìo, F. Cannizzaro, *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, DOI: 10.1016/j.ijnonlinmec.2014.10.016
- J-9. S. Caddemi, I. Calìo, 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. Calìo, *3D macro-element modelling approach for seismic assessment of historical masonry churches* – (2016) *Advances in Engineering Software*, 97, pp. 40-59, DOI: 10.1016/j.advengsoft.2016.02.009
- J-11. S. Caddemi, I. Calìo, F. Cannizzaro, *On the dynamic stability of shear deformable beams under a tensile load* – (2016) *Journal of Sound and Vibration*, 373, pp. 89-103, DOI: 10.1016/j.jsv.2016.03.006
- 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:

- 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. Calì, 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](https://doi.org/10.1080/15583058.2017.1325539)
- J-15. F. Cannizzaro, A. Greco, S. Caddemi, I. Calì, *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](https://doi.org/10.1016/j.ijsolstr.2017.05.026)
- J-16. S.Caddemi, I.Calì, F. Cannizzaro, *The Dynamic Stiffness Matrix (DSM) of axially loaded multi-cracked frames* – (2017) *Mechanics Research Communications*, 24, pp. 90-97, DOI: [10.1016/j.mechrescom.2017.06.012](https://doi.org/10.1016/j.mechrescom.2017.06.012)
- J-17. S. Caddemi, I. Calì, F. Cannizzaro, B. Pantò, *New Frontiers on Seismic Modeling of Masonry Structures* - (2017) *Frontiers in Built Environment*, 3, DOI: [10.3389/fbuil.2017.00039](https://doi.org/10.3389/fbuil.2017.00039)
- J-18. B. Pantò, F. Cannizzaro, S. Caddemi, I. Calì, 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](https://doi.org/10.3390/buildings7030079)
- J-19. F. Cannizzaro, J. De Los Rios, S. Caddemi, I. Calì, S. Ilanko, *Crack localization in beams by frequency shifts due to roving mass with rotary inertia* (2017) *Procedia Engineering*, 199, pp. 900-905, DOI: [10.1016/j.proeng.2017.09.229](https://doi.org/10.1016/j.proeng.2017.09.229)
- J-20. F. Cannizzaro, B. Pantò, M. Lepidi, S. Caddemi, I. Calì, *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](https://doi.org/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, pp. 51-67, DOI: [10.1016/j.ymssp.2017.11.040](https://doi.org/10.1016/j.ymssp.2017.11.040)
- J-22. A. Greco, A. Pluchino, F. Cannizzaro, S. Caddemi, I. Calì, *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; DOI: [10.1016/j.asoc.2017.11.040](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: [10.1007/s00366-018-0583-9](https://doi.org/10.1007/s00366-018-0583-9)
- J-24. F. Cannizzaro, J. De Los Rios, S. Caddemi, I. Calì, 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, DOI: [10.1016/j.jsv.2018.03.020](https://doi.org/10.1016/j.jsv.2018.03.020)
- J-25. F. Cannizzaro, B. Pantò, S. Caddemi, I. Calì, *A Discrete Macro-Element Method (DMEM) for the nonlinear structural assessment of masonry arches* - (2018) *Engineering Structures*, 168, pp. 243-256, DOI: [10.1016/j.engstruct.2018.04.006](https://doi.org/10.1016/j.engstruct.2018.04.006)
- J-26. S. Caddemi, I. Calì, 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*, 25(8), e2194, DOI: [10.1002/stc.2194](https://doi.org/10.1002/stc.2194)
- J-27. C. Chàcara, F. Cannizzaro, B. Pantò, I. Calì, P.B. Lourenço, *Assessment of the dynamic response of unreinforced masonry structures using a macroelement modeling approach* – (2018) *Earthquake Engineering and Structural Dynamics*, 47(12), pp. 2426-2446, DOI: [10.1002/eqe.3091](https://doi.org/10.1002/eqe.3091)

- J-28. A. Greco, A. Pluchino, S. Caddemi, I. Calì, F. Cannizzaro, *On profile reconstruction of Euler-Bernoulli beams by means of an energy based genetic algorithm* – (2020) *Engineering with Computers*, 36, pp. 239-250 DOI: 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. Calì, P.B. Lourenço, *Seismic vulnerability of URM structures based on a Discrete Macro-Element Modeling (DMEM) approach* – (2019) *Engineering Structures*, 201, 109715, DOI: 10.1016/j.engstruct.2019.109715.
- J-31. A. Greco, F. Cannizzaro, A. Pluchino, *A novel procedure for the assessment of the seismic performance of frame structures by means of limit analysis* – (2020) *Bulletin of Earthquake Engineering*, 18, pp. 4363-4386 DOI: 10.1007/s10518-020-00859-3
- J-32. F. Cannizzaro, N. Impollonia, S. Caddemi, I. Calì, *Explicit dynamic response of damaged beams with application to uncertain and identification problems* – (2020) *Journal of Sound and Vibration*, 487, 115608, DOI: 10.1016/j.jsv.2020.115608
- J-33. G. Cocuzza Avellino, F. Cannizzaro, A. Di Martino, R. Valenti, E. Paternò, I. Calì, N. Impollonia, *Numerical and Experimental Response of Free-Standing Art Objects Subjected to Ground Motion* – (2021) *International Journal of Architectural Heritage*, DOI: 10.1080/15583058.2021.1902019
- J-34. A.M. D’Altri, F. Cannizzaro, M. Petracca, D.A. Talledo, *Nonlinear modelling of the seismic response of masonry structures: Calibration strategies* – (2021) *Bulletin of Earthquake Engineering*, 20, pp. 1999-2043, DOI: 10.1007/s10518-021-01104-1
- J-35. F. Cannizzaro, G. Castellazzi, N. Grillanda, B. Pantò, M. Petracca, *Modelling the nonlinear static response of a 2-storey URM benchmark case study: comparison among different modelling strategies using two- and three-dimensional elements* – (2021) *Bulletin of Earthquake Engineering*, 20, pp. 2085–2114, DOI: 10.1007/s10518-021-01183-0
- J-36. G. Occhipinti, F. Cannizzaro, S. Caddemi, I. Calì, *A Discrete Macro Element Method for Modelling Ductile Steel Frames around the Openings of URM Buildings as Low Impact Retrofitting Strategy* – (2021) *Sustainability*, 13(17), 9787, DOI: 10.3390/su13179787
- J-37. G. Cocuzza Avellino, F. Cannizzaro, N. Impollonia, *Shaking Table Seismic Experimental Investigation of Lightweight Rigid Bodies* – (2022) *Buildings*, 12, 915, DOI: 10.3390/buildings12070915
- J-38. F. Cannizzaro, I. Fiore, A. Greco, S. Caddemi, I. Calì, *Eigenproperties of multi-cracked circular arches* – (2023) *Journal of Sound and Vibration*, 543, 117365, DOI: 10.1016/j.jsv.2022.117365
- J-39 F. Cannizzaro, B. Pantò, S. Caddemi, I. Calì, *Discrete modelling of externally bonded composite layers on masonry structures* – (2023) *Composite Structures*, 116937, DOI: 10.1016/j.compstruct.2023.116937
- J-40 F. Cannizzaro, B. Pantò, M. Liuzzo, G. Margani, *An Interdisciplinary Approach for the Geometric, Constructive, and Structural Assessment of Historical Masonry Domes with Application to the ‘Badia di Sant’Agata’ in Catania, Sicily* – (2023) *International Journal of Architectural Heritage*, DOI: 10.1080/15583058.2023.2213186
- J-41. F. Cannizzaro, I. Fiore, S. Caddemi, I. Calì, *The exact distributional model for free vibrations of shear-bending multi-cracked Timoshenko beams* – (2023) *European Journal of Mechanics – A/Solids*, 101, 105039, DOI:

10.1016/j.euromechsol.2023.105039

J-42. C.F. Carocci, F. Cannizzaro, S. Cocina, A. Di Martino, R. Finocchiaro, N. Impollonia, V. Macca, A. Terrana, C. Tocci, *Preservation of Abandoned Historic Centres—The Case of Poggioreale antica (Sicily)* – (2023) Land 12, 1376. DOI: 10.3390/land12071376

J-43. A. Greco, F. Cannizzaro, R. Bruno, A. Pluchino, *A nested genetic algorithm strategy for an optimal seismic design of frames* – (2023) Computational Optimization and Applications DOI: 10.1007/s10589-023-00523-x

J-44. C. Chàcara, B. Pantò, F. Cannizzaro, D. Rapicavoli, I. Calìo, *Numerical Simulation of the Response of an Unreinforced Brick-Masonry Cross Vault Subjected to Seismic Loading* – (2023) International Journal of Architectural Heritage DOI: 10.1080/15583058.2023.2290037

J-45. F. Cannizzaro, I. Fiore, S. Caddemi, I. Calìo, *Exact closed-form dynamic stiffness matrix of damaged frames comprising Timoshenko–Ehrenfest beams* – (2024) Journal of Vibration and Control, doi:10.1177/10775463241233055

J-46. I. Fiore, F. Cannizzaro, S. Caddemi, I. Calìo, *Distributional Green's functions for the vibrations of multi-cracked Timoshenko beams* – (2024) Applied Acoustics, 228, 110302, doi: 10.1016/j.apacoust.2024.110302

Proceedings of International
Conferences

IC-1. I. Calìo, 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. Calìo, 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. Calìo, 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. Calìo, 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. Calìo, 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. Calìo, 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. Calìo, 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. Calìo, 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. Calìò, 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. Calìò, 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. Calìò (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. Calìò, 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*. Congressos 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. Calìo, (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. Calìo, 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. Calìo, 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. Calìo, 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, 2020.
- IC-28 F. Cannizzaro, N. Impollonia, G. Cocuzza Avellino, S. Caddemi, I. Calìo, *Interval analysis of the forced vibration of beams with uncertain damage*. REC 2021, Proceedings of the 9th International Workshop on Reliable Engineering Computing, Virtual Conference May 17-20, 2021, pp. 575-586.
- IC-29 A. Di Martino, G. Cocuzza Avellino, E. Paternò, F. Cannizzaro, I. Calìo, G. Gianfriddo, R. Valenti, N. Impollonia, *An Interdisciplinary approach for the experimental assessment of the seismic safety of artworks*. SAHC 2020, Proceedings of the 12th International Conference on Structural Analysis of Historical Constructions, P. Roca, L. Pelà, and C. Molins (Eds.) Virtual Conference September 30- October 1, 2021, pp. 909-920.
- IC-30 A. Lo Faro, V. Cusmano, B. Pantò, F. Cannizzaro, *Constructive analysis and modelling of a single nave church: a proposal for S. Sebastiano (EN, Italy)*. SAHC 2020, Proceedings of the 12th International Conference on Structural Analysis of Historical Constructions, P. Roca, L. Pelà, and C. Molins (Eds.) Virtual Conference September 30- October 1, 2021, pp. 1002-1013.
- IC-31 C. Chàcara, B. Pantò, F. Cannizzaro, D. Rapicavoli, I. Calìo, P.B. Lourenço, *Simulation of the out-of-plane behaviour of URM walls by means of Discrete Macro-Element Method*. SAHC 2020, Proceedings of the 12th International Conference on Structural Analysis of Historical Constructions, P. Roca, L. Pelà, and C. Molins (Eds.) Virtual Conference September 30- October 1, 2021, pp. 2294-2305.
- IC-32 S. Caddemi, I. Calìo, F. Cannizzaro, D. Rapicavoli, N. Simoncello, P. Zampieri, J. Gonzales-Libreros, C. Pellegrino, *Numerical modelling of masonry arches strengthened with SFRM*. SAHC 2020, Proceedings of the 12th International Conference on Structural Analysis of Historical Constructions, P. Roca, L. Pelà, and C. Molins (Eds.) Virtual Conference September 30- October 1 2021, pp. 2612-2619.
- IC-33 F. Cannizzaro, B. Pantò, S. Caddemi, I. Calìo, L. Macorini, B. Izzuddin, *Alternative strategies for modelling masonry arches*. Fourteenth International Conference on Computational Structures Technology Civil Comp 2022, Montpellier (France) August 23- 25 2022.
- IC-34 C. Chàcara, F. Cannizzaro, B. Pantò, D. Rapicavoli, P.B. Lourenço, I. Calìo, *Evaluation of the response of a masonry cross vault subjected to vertical loading using the Discrete Macro-Element Method*. Fourteenth International Conference on Computational Structures Technology Civil Comp 2022, Montpellier (France) August 23- 25 2022.

- IC-35. S. Caddemi, I. Calì, F. Cannizzaro, N. Impollonia, *Crack intensity closed form solutions by frequency measurements on damaged beams*. The Eighth International Conference on Structural Engineering, Mechanics and Computation SEMC 2022, Cape Town (South Africa) September 5-7 2022.
- IC-36. A. Di Martino, F. Cannizzaro, G. Cocuzza Avellino, N. Impollonia, *A new low-cost rolling ball type isolation device for the protection of museum collections*. 3rd International Conference TMM-CH Transdisciplinary Multispectral Modelling and Cooperation for the Preservation of Cultural Heritage, Athens (Greece) March 20-23 2023.
- IC-37. C.F. Carocci, C. Tocci, A. Di Martino, R. Finocchiaro, V. Macca, S. Cocina, A. Terrana, N. Impollonia, F. Cannizzaro, *Preservation and reuse of abandoned historic centres. The case of Poggioreale antica (Sicily)*. 3rd International Conference TMM-CH Transdisciplinary Multispectral Modelling and Cooperation for the Preservation of Cultural Heritage, Athens (Greece) March 20-23 2023.
- IC-38. F. Parisse, V. Buonocunto, C. Cantagallo, A. Di Primio, E. Di Domenico, N. Lo Presti, E. Acconcia, F. Cannizzaro, G. Castellazzi, A.M. D'Altri, S. Liseni, C.F. Manzini, R. Marques, G. Occhipinti, G. Pacella, M. Petracca, L.C. Silva, G. Brandonisio, B. Calderoni, I. Calì, G. Camata, P.B. Lourenço, G. Milani, S. de Miranda, F. Parisi, G. Magenes, S. Cattari, *Investigating the seismic response of urm walls with irregular opening layout through different modeling approaches*. 9th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering M. Papadrakakis, M. Fragiadakis (eds.) COMPDYN 2023, Athens, Greece, 12-14 June 2023.
- IC-39. D. Rapicavoli, F. Cannizzaro, S. Caddemi, I. Calì, *Discrete Macro-Element structural assessment of a railway masonry arch bridge subjected to pier settlements*. 8th International Symposium on Life-Cycle Civil Engineering IALCCE 2023, Milan, Italy, July 2-6 2023.
- IC-40. C. Chàcara, B. Pantò, F. Cannizzaro, D. Rapicavoli, I. Calì, *Numerical investigation on the seismic response of a masonry cross vault based on the Discrete Macro-Element Method*. 9th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering M. Papadrakakis, M. Fragiadakis (eds.) COMPDYN 2023, Athens, Greece, 12-14 June 2023.
- IC-41. D. Patanè, W. Yang, G. Occhipinti, F. Cannizzaro, C. Oriti, I. Calì, *MonVia Project, development and application of a new sensor box*. IOMAC202410th International Operational Modal Analysis Conference May 22-24, 2024; Naples, Italy.
- IC-42. A. Greco, F. Cannizzaro, I. Fiore, A. Pluchino, *On seismic vulnerability assessment by means of limit analysis of frames with progressive damage*. International Conference of Numerical Analysis and Applied Mathematics: ICNAAM2022 19–25 September 2022 Heraklion, Greece. AIP Conference Proceedings. 3094, 500022 (2024), doi: 10.1063/5.0210550.
- IC-43. S. Caddemi, F. Cannizzaro, *The Statics of the Multi-cracked Bickford-Reddy Beam*. Euromech 2024, Colloquium 642 – International Colloquium on Multiscale and Multiphysics Modelling for Advanced and Sustainable Materials, 22–27 September 2024, Rome, Italy.
- IC-44. S. Caddemi, F. Cannizzaro, I. Fiore, I. Calì, *On the use of a roving harmonic load to locate cracks in shear deformable beam*, Proceedings of 11th International Conference “Inverse Problems: Modelling and Simulation” (IPMS 2024), Malta, May 26 - June 01, 2024.
- IC-45. S. Caddemi, F. Cannizzaro, I. Fiore, I. Calì, *Forced vibrations of multi-cracked shear deformable beams by means of extended modal analysis*, Proceedings of 4th International Nonlinear Dynamics Conference (NODYCON 2025), Hoboken, NJ, USA, 22-25 June 2025.
- IC-46. A. Di Martino, F. Cannizzaro, N. Impollonia, F. Lo Iacono, G. Navarra, M.

Oliva, (2025) *Experimental campaign on a novel seismic isolator for museum content*. EMCEI 2025, 7th Euro-Mediterranean Conference for Environmental Integration, June 23-26 2025, Reggio Calabria, Italy.

IC-47. S. Caddemi, I. Calì, F. Cannizzaro, I. Fiore, *Crack location by means of the use of roving loads*. The Ninth International Conference on Structural Engineering, Mechanics and Computation SEMC 2025, Cape Town (South Africa) September 1-3 2025.

IC-48. G. Magenes, S. Degli Abbati, S. Cattari, F. Parisse, R. Marques, P.B. Lourenço, E. Acconcia, V. Buonocunto, M. Postiglione, G. Brandonisio, B. Calderoni, F. Parisi, A. Di Primio, G. Camata, A.M. D'Altri, G. Castellazzi, S. de Miranda, S. Liseni, F. Cannizzaro, I. Calì, C.F. Manzini, G. Occhipinti, L.C. Silva, G. Milani (2025) *Key lessons from the Italian ReLUIs "Benchmark project": comparing different nonlinear modeling approaches for the seismic assessment of URM buildings*. SAHC 2025 14th International Conference on Structural Analysis of Historical Constructions 15th - 17th September 2025 | Lausanne, Switzerland

NC-1. I. Calì, F. Cannizzaro, E. D'Amore, M. Marletta & B. Pantò. (2008) *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*. Convegno RELUIS - Valutazione e Riduzione della Vulnerabilità Sismica di Edifici Esistenti in C.A. Roma, 29-30 Maggio 2008, ISBN: 978-88-7699-129-5

NC-2. S. Caddemi, I. Calì, F. Cannizzaro, M. Marletta, B. Pantò. (2009) *Vulnerabilità sismica del Tempio della Concordia*. Convegno dell'Associazione Nazionale di Ingegneria Sismica (ANDIS). Bologna, 28 Giugno-2 Luglio 2009, ISBN: 978-88-904292-0-0

NC-3. I. Calì, F. Cannizzaro, M. Marletta. (2009) *Un nuovo elemento discreto per lo studio di strutture in muratura a geometria curva*. Convegno dell'Associazione Nazionale di Ingegneria Sismica (ANDIS). Bologna, 28 Giugno-2 Luglio 2009, ISBN: 978-88-904292-0-0

NC-4. I. Calì, F. Cannizzaro, M. Marletta, B. Pantò (2011) *Un nuovo approccio di modellazione della risposta sismica di edifici storici*. XIV Convegno ANIDIS - L'Ingegneria Sismica in Italia. Bari 18-22 Settembre 2011, ISBN: 9788875220402

NC-5. S. Caddemi, I. Calì, F. Cannizzaro, P. Colajanni, B. Pantò, G. Ricciardi. (2013) *Un approccio innovativo per la modellazione degli edifici in muratura intelaiata. Applicazione ad un caso di studio*. Convegno dell'Associazione Nazionale di Ingegneria Sismica (ANDIS). Padova, 30 Giugno-4 Luglio 2013, ISBN: 978-88-97385-59-2

NC-6. I. Calì, F. Cannizzaro, B. Pantò, F. Oliveto (2013) *La valutazione dei cedimenti in fondazione negli edifici in muratura mediante analisi statiche nonlineari condotte in ambiente 3DMacro*. Convegno dell'Associazione Nazionale di Ingegneria Sismica (ANDIS). Padova, 30 Giugno-4 Luglio 2013, ISBN: 978-88-97385-59-2

NC-7. 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-8. 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-9. 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-10. F. Cannizzaro, M. Liuzzo, G. Margani, B. Pantò, (2017) *La cupola della "Badia di Sant'Agata" a Catania: un esempio di costruzione autoportante e di presidio antisismico ante litteram*. Colloqui.AT.e 2017, Demolition and Reconstruction?, Ancona, 28-29 Settembre 2017.

- NC-11. 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-12. F. Cannizzaro, A. Greco, S. Caddemi, I. Calìò (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-13. S. Caddemi, I. Calìò, 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-14. S. Cattari, D. Camilletti, G. Magenes, C.F. Manzini, P. Morandi, E. Spacone, G. Camata, C. Marano, I. Calìò, 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-15. F. Cannizzaro, N. Impollonia, G. Cocuzza Avellino S. Caddemi, I. Calìò (2019) *Explicit assessment of the forced vibration of multi-cracked beams with uncertain damage intensity*. Lecture Notes in Mechanical Engineering AIMETA 2019 - Proceedings of the XXIV Conference of the Italian Association of Theoretical and Applied Mechanics, Rome 15-19 September 2019.
- NC-16. S. Cattari, D. Ottonelli, S. Degli Abbatì, G. Magenes, C.F. Manzini, P. Morandi, E. Spacone, G. Camata, C. Marano, I. Calìò, 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.
- NC-17. F. Cannizzaro, I. Fiore, A. Greco, S. Caddemi, I. Calìò (2022) *The dynamics of circular arches with multiple damage*. AIMETA 2022 - Proceedings of the XXV Italian Conference on Theoretical and Applied Mechanics, Palermo 4-8 September 2022.
- NC-18. F. Cannizzaro, S. Caddemi, I. Calìò, N. Impollonia (2022) *Explicit expressions of the eigenfrequencies of damaged frames*. AIMETA 2022 - Proceedings of the XXV Italian Conference on Theoretical and Applied Mechanics, Palermo 4-8 September 2022.
- NC-19. D. Rapicavoli, F. Cannizzaro, I. Fiore, M. Messina, S. Liseni, G. Occhipinti, S. Caddemi, I. Calìò (2024) *Bridge Data: a cloud-based platform for the assessment of the Class of Attention of existing bridges*. II Fabre Conference – Existing bridges, viaducts and tunnels: research, innovation and applications (FABRE24) Genoa 12-15 February 2024. *Procedia Structural Integrity* 62, 250–258, doi: 10.1016/j.prostr.2024.09.040
- NC-20. D. Rapicavoli, F. Cannizzaro, M. Falco, S. Fiore, M. Papa, S. Caddemi, I. Calìò (2024) *Structural Assessment of a Masonry Arch Bridge before and after a traditional inner arch retrofitting technique*. II Fabre Conference – Existing bridges, viaducts and tunnels: research, innovation and applications (FABRE24) Genoa 12-15 February 2024. *Procedia Structural Integrity* 62, 476–483, doi: 10.1016/j.prostr.2024.09.068

NC-21. F. Cannizzaro, G. Occhipinti, D. Rapicavoli, C. Oriti, D. Patanè, S. Caddemi, I. Calìo (2024) *Modelling a reinforced concrete arch bridge by means of the Discrete Macro-Element Model: the case of Giovanni XXIII bridge in Ragusa*. II Fabre Conference – Existing bridges, viaducts and tunnels: research, innovation and applications (FABRE24) Genoa 12-15 February 2024. Procedia Structural Integrity 62, 724–731, doi: 10.1016/j.prostr.2024.09.099

NC-22. G. Pappalardo, D. Calìo, L. Cavallaro, A. Musca, D. Rapicavoli, F. Cannizzaro, I. Calìo (2024) *Multi-hazard assessment of a masonry railway bridge in landslide areas*. II Fabre Conference – Existing bridges, viaducts and tunnels: research, innovation and applications (FABRE24) Genoa 12-15 February 2024. Procedia Structural Integrity 62, 460–467, doi: 10.1016/j.prostr.2024.09.066

NC-23. F. Cannizzaro, I. Fiore, S. Caddemi, I. Calìo (2024) *On the use of pulsating loads to locate cracks in beams*. AIMETA 2024 - Proceedings of the XXVI Italian Conference on Theoretical and Applied Mechanics, Naples 2-6 September 2024.

NC-24. I. Fiore, F. Cannizzaro (2024) *The statics of the multi-cracked Timoshenko circular arch*. AIMETA 2024 - Proceedings of the XXVI Italian Conference on Theoretical and Applied Mechanics, Naples 2-6 September 2024.

NC-25. M. Falco, I. Calìo, D. Rapicavoli, F. Cannizzaro, S. Caddemi (2024) *A novel solid Element to enrich the Discrete Macro Element Method (DMEM)*. AIMETA 2024 - Proceedings of the XXVI Italian Conference on Theoretical and Applied Mechanics, Naples 2-6 September 2024.

NC-26. A. Di Martino, F. Cannizzaro, N. Impollonia, F. Lo Iacono, G. Navarra, M. Oliva (2025) *Un nuovo basamento per la protezione sismica di beni museali*. XL Convegno Scienza e Beni Culturali, Bressanone June 17-20 2025.

NC-27. A.E. Messina, G. Rodonò, F. Cannizzaro, V. Sapienza (2025) *Traditional Processing and Digital Transition MWK – MOBILE WALL KERFING*. ColloquiATE 2025, Università di Trento, June 11-14 2025.

Extended abstracts on
International Conferences

EA-1. 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, Italy, 25-29 May 2015.

EA-2. S. Caddemi, I. Calìo, 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. Calìo, *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.

EA-4. F. Cannizzaro, I. Fiore, S. Caddemi, I. Calìo, *Explicit dynamic solutions of damaged beams*. ISVCS13, 13th International Symposium on Vibrations of Continuous Systems, Pomeroy, Kananaskis Mountain Lodge, Alberta, Canada, 30th July to 4th August 2023.

Papers on national journals

NJ-1. I. Calìo, F. Cannizzaro, G. Occhipinti, B. Pantò, D. Rapicavoli, D. D'Urso, G. Pisanelli, G. Spirolazzi, R. Zurlo (2018) *Ponti ferroviari ad arco: metodologia per l'analisi tridimensionale nonlineare*. La Tecnica Professionale

NJ-2 D. Rapicavoli, F. Cannizzaro, B. Pantò, S. Caddemi, I. Calìo. *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. Calìo. *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

Research reports

R-1. Calìo I., Cannizzaro F., Grasso D., Marletta M., Pantò B., Rapicavoli D., (2006) *Progetto Trema: Scheda modello fisso alla base*, Progetto ReLUIS

R-2. Calìo I., Cannizzaro F., Grasso D., Marletta M., Pantò B., Rapicavoli D., (2006) *Simulazioni del comportamento sismico del modello fisso alla base del Progetto Trema*, Progetto ReLUIS

R-3. Calìo I., Cannizzaro F., Grasso D., Marletta M., Pantò B., Rapicavoli D., (2006) *Simulazioni del comportamento sismico del modello isolato del Progetto Trema*, Progetto ReLUIS

R-4. Calìo I., Cannizzaro F., Marletta M., Pantò B. (2007). *Un nuovo approccio ai macro-elementi per lo studio del comportamento sismico degli elementi in muratura a geometria curva*, Progetto ReLUIS

R-5. Calìo I., Cannizzaro F., Marletta M., Pantò B. (2009). *Stima della vulnerabilità sismica del caso di studio denominato edificio Capri*, Progetto ReLUIS

R-6. Calìo I., Cannizzaro F., Marletta M., (2009). *Un nuovo elemento discreto per la modellazione di strutture a geometria curva*, Progetto ReLUIS

R-7. Calìo I., Cannizzaro F., Caponetto R., Intelisano M., Margani G., Marletta M., Pantò B (2009). *Report sullo stato dell'edificio denominato "Palazzo Gualtieri" a seguito dell'evento sismico del 6 Aprile 2009 presso L'Aquila*, Presidenza del Consiglio dei Ministri DIPARTIMENTO DELLA PROTEZIONE CIVILE Commissario delegato per la Gestione dell'emergenza della Regione Abruzzo Ufficio del Vice-Commissario delegato per la tutela dei Beni Culturali

R-8. Calìo I., Cannizzaro F., Occhipinti G., Pantò B., Caddemi S., (2015). *Confronto tra diverse strategie di modellazione, applicazione su modelli benchmark locali*, Progetto ReLUIS

R-9. Caddemi S., Calìo I., Cannizzaro F., Falco M., Liseni S., Occhipinti G., Pantò B., Rapicavoli D., (2021). *Simulazione a macro-elementi discreti di edifici murari rinforzati con cerchiature in acciaio delle aperture*, Ingenio, <https://www.ingenio-web.it/32935-simulazione-a-macro-elementi-discreti-di-edifici-murari-rinforzati-con-cerchiature-in-acciaio-delle-aperture>

R-10. Cannizzaro F., (2021). *FRCM-masonry Interaction: a novel approach for modelling the BEhaviour of Retrofitted Historical Masonry Structures* (report I anno), Progetto FIBER-HMS

R-11. Calìo I., Cannizzaro F., Occhipinti G., Sassu M., Frattolillo A., Stochino F., Giresini L., (2022). *Caso studio: Scuola Ipsia Vittoria (RG)*, Progetto ReLUIS

R-12. S. Cattari, S. Degli Abbati, F. Parisse, G. Magenes, C.F. Manzini, P. Morandi, G. Camata, M. Petracca, A. Di Primio, I. Calìo, F. Cannizzaro, G. Occhipinti, F. Parisi, V. Buonocunto, E. Acconcia, G. Brandonisio, B. Calderoni, G. Camarda, S. de Miranda, G. Castellazzi, A.M. D'Altri, G. Milani, L.C. Silva (2025) *Uso dei software di calcolo nella verifica sismica degli edifici in muratura*. a cura di Serena Cattari, Guido Magenes, Progetto ReLUIS

Book chapters

B-1. I. Calìo, F. Cannizzaro, E. D' Amore, M. Marletta, B. Pantò. *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*. Contenuto in: *Valutazione e riduzione della vulnerabilità sismica di edifici esistenti in cemento armato*, a cura di E. Cosenza, G. Manfredi, G. Monti. Edito da Polimetrica (International Scientific Publisher). ISBN 978-88-7699-130-1.

B-2. I. Calìo, F. Cannizzaro, R. Caponetto, M. Intelisano, G. Margani, M. Marletta, B. Pantò. *Report sullo stato dell'edificio denominato "Palazzo Gualtieri" a seguito dell'evento sismico del 6 aprile 2009 presso L'Aquila*. Contenuto in: *L'università e la ricerca per L'Abruzzo. Il patrimonio edilizio dopo il terremoto del 6 Aprile 2009*, a cura di: Lucia Milano, Carmela Morisi, Chiara Calderini, Adalgisa Donatelli (Textus edizioni). Con il patrocinio di: 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. Calìo, F. Cannizzaro, B. Pantò, D. Rapticavoli. *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), 2019. doi: 10.1016/C2017-0-01579-3

B-4. I. Calìo, S. Caddemi, F. Cannizzaro, S. Liseni, G. Occhipinti, B. Pantò, D. Rapticavoli. *La modellazione ai macro-elementi discreti di strutture in muratura rinforzate mediante "Composite Reinforced Mortar (CRM)"* In. Il filo della ricerca: Vent'anni di studi e sperimentazioni sul sistema CRM 2001-2021, by Antonio Borri, 2021.

Software

S-1. Calìo, I., Cannizzaro F., Marletta M., Pantò B., "3DMacro: Il software per le murature" (2009) www.grupposismica.it

S-2. Calìo, I., Cannizzaro F., Pantò B., D. Rapticavoli, *HISTRA Arches and Vaults: Historical STRuctural Analysis* (2014) www.grupposismica.it

S-3. Calìo, I., Cannizzaro F., Pantò B., D. Rapticavoli, *HISTRA Bridges: Historical STRuctural Analysis* (2018) www.grupposismica.it

S-4. D. Rapticavoli, F. Cannizzaro, I. Fiore, M. Messina, S. Liseni, G. Occhipinti, S. Caddemi, I. Calìo, "Bridge Data: a cloud-based platform for the assessment of the Class of Attention of existing bridges" (2024) www.grupposismica.it

INTELLECTUAL PROPERTY

Patents

F. Cannizzaro, N. Impollonia, A. Di Martino (2025) *Isolatore sismico a rotolamento su guide curve rotanti per la protezione di strumentazioni, macchinari, scaffalature e oggetti d'arte poggiati al suolo*. Patent for industrial invention nr. 102025000007965 registered on April 10th 2025 (currently under examination).

CONFERENCES

Speaker at international conferences

M. Bonatte, E. Tubaldi, D. Oliveira, F. Cannizzaro, D. Rapticavoli, B. Pantò, M. Falco, H. McDonald, J. Campos e Matos, I. Calìo, *Simulating an experimental campaign on Masonry Arch Bridges with the Discrete Macro-Element Method*. ARCH25, 11th International Conference on Arch Bridges, 30 September – 3 October 2025, Genoa, Italy.

S. Caddemi, F. Cannizzaro, *The Statics of the Multi-cracked Bickford-Reddy Beam*. Euromech 2024, Colloquium 642 – International Colloquium on Multiscale and Multiphysics Modelling for Advanced and Sustainable Materials, 22–27 September 2024, Rome, Italy.

C. Chàcara, D. Rapticavoli, F. Cannizzaro, B. Pantò, I. Calìo *Shaking Table Tests Simulation Using a Discrete Macro-element of a Strengthened Masonry Cross Vault*. WCEE2024 - 18th World Conference on Earthquake Engineering, 30 June – 5 July 2024, Milan, Italy.

F. Cannizzaro, B. Pantò, S. Caddemi, I. Calìo *A Discrete Macro-Element Model to Analyze Externally Bonded Composite Reinforced Masonry Structures*. WCEE2024 - 18th World Conference on Earthquake Engineering, 30 June – 5 July 2024, Milan, Italy.

F. Cannizzaro, I. Fiore, S. Caddemi, I. Calìo, *Free vibration of shear deformable beams and frames in presence of multiple cracks*. EMI 2023 International Conference, Palermo, Italy, August 28-30 2023.

D. Rapticavoli, F. Cannizzaro, S. Caddemi, I. Calìo, *Discrete Macro-Element structural*

assessment of a railway masonry arch bridge subjected to pier settlements. 8th International Symposium on Life-Cycle Civil Engineering IALCCE 2023, Milan, Italy, July 2-6 2023.

F. Cannizzaro, B. Pantò, S. Caddemi, I. Calìo, L. Macorini, B. Izzuddin, *Alternative strategies for modelling masonry arches*. Fourteenth International Conference on Computational Structures Technology Civil Comp 2022, Montpellier (France) August 23- 25 2022.

Di Martino, G. Cocuzza Avellino, E. Paternò, F. Cannizzaro, I. Calìo, G. Gianfriddo, R. Valenti, N. Impollonia, *An Interdisciplinary approach for the experimental assessment of the seismic safety of artworks*. SAHC 2020, Proceedings of the 12th International Conference on Structural Analysis of Historical Constructions, P. Roca, L. Pelà, and C. Molins (Eds.) Virtual Conference September 30- October 1, 2021, pp. 909-920.

F. Cannizzaro, N. Impollonia, G. Cocuzza Avellino, S. Caddemi, I. Calìo. *Interval analysis of the forced vibration of beams with uncertain damage*. REC 2021, Proceedings of the 9th International Workshop on Reliable Engineering Computing, Virtual Conference May 17-20, 2021, pp. 575-586.

F. Cannizzaro, N. Impollonia, S. Caddemi, I. Calìo. *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. Calìo, 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

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. Napoli 2-5 Settembre 2014.

S. Caddemi, I. Calìo, F. Cannizzaro, M. Marletta, B. Pantò. *Vulnerability analysis of the Concordia Temple*. SAHC 2010. Shanghai, 6-8 Ottobre 2010.

Speaker at national conferences

F. Cannizzaro, I. Fiore, S. Caddemi, I. Calìo (2024) *On the use of pulsating loads to locate cracks in beams*. AIMETA 2024 - XXVI Italian Conference on Theoretical and Applied Mechanics, Naples 2-6 September 2024.

D. Rapicavoli, F. Cannizzaro, M. Falco, S. Fiore, M. Papa, S. Caddemi, I. Calìo (2024) *Structural Assessment of a Masonry Arch Bridge before and after a traditional inner arch retrofitting technique*. II Fabre Conference – Existing bridges, viaducts and tunnels: research, innovation and applications (FABRE24) Genoa 12-15 February 2024.

F. Cannizzaro, G. Occhipinti, D. Rapicavoli, C. Oriti, D. Patanè, S. Caddemi, I. Calìo (2024) *Modelling a reinforced concrete arch bridge by means of the Discrete Macro-Element Model: the case of Giovanni XXIII bridge in Ragusa*. II Fabre Conference – Existing bridges, viaducts and tunnels: research, innovation and applications (FABRE24) Genoa 12-15 February 2024.

F. Cannizzaro, I. Fiore, A. Greco, S. Caddemi, I. Calìo (2022) *The dynamics of circular arches with multiple damage*. AIMETA 2022 - Proceedings of the XXV Italian Conference on Theoretical and Applied Mechanics, Palermo 4-8 September 2022.

F. Cannizzaro, S. Caddemi, I. Calìo, N. Impollonia (2022) *Explicit expressions of the eigenfrequencies of damaged frames*. AIMETA 2022 - Proceedings of the XXV Italian

Conference on Theoretical and Applied Mechanics, Palermo 4-8 September 2022.

Cannizzaro, F., Pantò, B., Falco, M., Rapicavoli, D., Calìo, I., Caddemi, S.. *Innovative approaches for modelling masonry structures and geopolymer based strengthening techniques*, Congresso Nazionale Italiano sui Geopolimeri Nuove frontiere dei materiali innovativi e green nel restauro e nell'edilizia, Catania, 24-25 Febbraio 2022.

S. Caddemi, I. Calìo, F. Cannizzaro, N. Catania, S. Liseni, G. Occhipinti, D. Rapicavoli. *Strategie di Modellazione a Macro-Elementi di Ponti ad Arco in Muratura*, Convegno Fabre Ponti, viadotti, e gallerie esistenti: ricerca, innovazione e applicazioni, Lucca, 2-4 Febbraio 2022.

F. Cannizzaro, N. Impollonia, G. Cocuzza Avellino S. Caddemi, I. Calìo (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, A. Greco, S. Caddemi, I. Calìo. *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

I. Calìo, F. Cannizzaro, M. Marletta, B. Pantò (2011) *Un nuovo approccio di modellazione della risposta sismica di edifici storici*. XIV Convegno ANIDIS – L'Ingegneria Sismica in Italia. Bari 18-22 Settembre 2011.

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 Settembre 2010.

Invited talks

F. Cannizzaro, *Poggioreale, How Are You? Interpretation of Vulnerabilities and Mitigation Strategies*. Digital integrated strategies to safeguard heritage construction technologies, Poggioreale September 30 – October 5 2024 (organized by CNR - Consiglio Nazionale delle Ricerche)

F. Cannizzaro, *Numerical modelling of retrofitting strategies of masonry arch bridges by means of the Discrete Macro-Element Method*. 1st International Workshop on inspection, testing, monitoring, assessment and maintenance of Masonry Arch Bridges, WoMAB, Padova, September 12-13 2024

Attendance to conferences of international relevance

ARCH25, 11th International Conference on Arch Bridges, 30 September – 3 October 2025, Genoa, Italy.

Digital integrated strategies to safeguard heritage construction technologies, Poggioreale, Italy, 30 September – 5 October 2024.

Colloquium 642 – International Colloquium on Multiscale and Multiphysics Modelling for Advanced and Sustainable Materials, Rome, Italy 22–27 September 2024.

WoMAB 1st International Workshop on inspection, testing, monitoring, assessment and maintenance of Masonry Arch Bridges, Padua, Italy, 12-13 September 2024.

WCEE2024 - 18th World Conference on Earthquake Engineering, Milan, Italy, 30 June – 5 July 2024.

EMI 2023 International Conference, Palermo, Italy, August 28-30 2023.

ISVCS13, 13th International Symposium on Vibrations of Continuous Systems, Pomeroy, Kananaskis Mountain Lodge, Alberta, Canada, 30th July to 4th August 2023.

8th International Symposium on Life-Cycle Civil Engineering IALCCE 2023, Milan, Italy, July 2-6 2023.

Fourteenth International Conference on Computational Structures Technology Civil

Comp 2022, Montpellier (France) August 23- 25 2022.

SAHC 2020, 12th International Conference on Structural Analysis of Historical Constructions, Virtual Conference September 30- October 1, 2021.

REC 2021, 9th International Workshop on Reliable Engineering Computing, Virtual Conference May 17-20, 2021.

ISVCS12, 12th International Symposium on Vibrations of Continuous Systems Sporthotel Panorama, Corvara in Badia (BZ), Italy, July 28 – August 2, 2019.

Compdyn 2019, 7th International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete (Greece) 24-26 Giugno 2019

16ECEE, 16th European Conference on Earthquake Engineering, Thessaloniki (Greece) 18-21 Giugno 2018

Euromech 2015 - Colloquium 562, Stability and control of nonlinear vibrating systems, Sperlonga, 25-29 Maggio 2015

CIVIL COMP 2014, The Twelfth International Conference on Computational Structures Technology, Napoli, 2-5 Settembre 2014

15th WCEE, World Conference of Earthquake Engineering, 24-28 Settembre 2012

7th International Conference on Structural Analysis of Historical Constructions (SAHC 2010). Shanghai 6-8 Ottobre 2010.

Convegno GADeS 2025 - X Riunione del Gruppo AIMETA di Dinamica & Stabilità, Enna 15-16 September 2025.

AIMETA 2024 - XXVI Italian Conference on Theoretical and Applied Mechanics, Naples 2-6 September 2024.

II Fabre Conference – Existing bridges, viaducts and tunnels: research, innovation and applications (FABRE24) Genoa 12-15 February 2024.

“Nuove tecniche e recenti esperienze sulle ispezioni speciali di ponti e viadotti esistenti”, Giornata di studio Padova, 9 Febbraio 2023.

AIMETA 2022, XXV Congresso - Associazione Italiana di Meccanica Teorica e Applicata Palermo, 4-8 Settembre 2022.

Congresso Nazionale Italiano sui Geopolimeri Nuove frontiere dei materiali innovativi e green nel restauro e nell'edilizia, Catania, 24-25 Febbraio 2022.

Convegno Fabre Ponti, viadotti, e gallerie esistenti: ricerca, innovazione e applicazioni, Lucca, 2-4 Febbraio 2022.

AIMETA 2019, XXIV Congresso - Associazione Italiana di Meccanica Teorica e Applicata Roma, 15-19 Settembre 2019

AIMETA 2017, XXIII Congresso - Associazione Italiana di Meccanica Teorica e Applicata Salerno, 4-7 Settembre 2017

ANIDIS, XV Convegno Nazionale di Ingegneria Sismica. Padova, 30 Giugno-04 Luglio 2013.

ANIDIS, XIV Convegno Nazionale di Ingegneria Sismica. Bari, 18-22 Settembre 2011.

XVIII Convegno Gruppo Italiano di Meccanica Computazionale. Siracusa 22-24 Settembre 2010.

ANIDIS, XIII Convegno Nazionale di Ingegneria Sismica. Bologna, 28 Giugno-02

Attendance to courses and conferences of national relevance

Luglio 2009.

ANIDIS, XII Convegno Nazionale di Ingegneria Sismica. Pisa, 10-14 Giugno 2007.

Member of the organizing committee of conferences

Catania e il terremoto: prevenire o ricostruire? conference organized by University of Catania and Ordine degli Ingegneri della provincia di Catania (January 11th 2017)

Existing building forum Aci Castello (CT), 23 Novembre 2023

WoMAB 1st International Workshop on inspection, testing, monitoring, assessment and maintenance of Masonry Arch Bridges, Padua, Italy, 12-13 September 2024.

Organization of mini-simposia

MS 18 – Safety and Maintenance of Masonry Arch Bridges: Diagnostic, Monitoring, Modelling, Risk Analysis and Retrofit Interventions organized within the 8th International Symposium on Life-Cycle Civil Engineering IALCCE 2023, Milan, Italy, July 2-6 2023.

SS 11 – Modelling and Analysis organized within the 11th International Conference on Arch Bridges ARCH25, 30 September – 3 October 2025, Genoa, Italy.

Member of the scientific board of conferences

Digital integrated strategies to safeguard heritage construction technologies, Poggioreale, Italy, 30 September – 5 October 2024.

SEMINARS AND OTHER COURSES

Seminars as speaker

Il terremoto del 1693 a Caltagirone e nella Val di Noto: aspetti tecnici e documentari, Caltagirone November 8th 2024 (organized by Ordine degli Ingegneri della Provincia di Catania).

Edifici esistenti. Dalla concezione all'intervento, Messina May 3rd 2024 (organized by Ordine degli Ingegneri della Provincia di Messina).

Sicurezza del costruito con soluzioni per il rinforzo, il consolidamento e la protezione sismica delle strutture con sistemi innovativi e sostenibili, Catania April 12th 2024 (organized by Ordine degli Ingegneri della Provincia di Catania).

Il progetto MonVia: nuove prospettive nel monitoraggio delle infrastrutture viarie, Ragusa November 9th 2023 (organized by Ordine degli Ingegneri della Provincia di Ragusa).

Mitigazione della vulnerabilità sismica di edifici di muratura e calcestruzzo armato con materiali compositi, Ragusa May 25th 2023 (organized by Ordine degli Ingegneri della Provincia di Ragusa).

Consolidamento e miglioramento sismico con compositi FRP: Attività di ricerca, principi ed esempi progettuali e applicativi, Catania May 16th 2023 (organized by Ordine degli Ingegneri della Provincia di Catania).

Mitigazione della vulnerabilità sismica di edifici di muratura e calcestruzzo armato con materiali compositi, Catania April 27th 2023 (organized by Ordine degli Ingegneri della Provincia di Catania).

Il progetto eWAS un sistema di allerta precoce per la salvaguardia del patrimonio culturale, Sharper Night 2021 - Notte europea dei ricercatori, organized by University of Catania, Catania September 24th 2021.

Il costruito storico nella val di Noto: riflessioni sulla vulnerabilità sismica tra passato e futuro within the round table “Rischio sismico e riqualificazione dei territori storici”, Caltagirone November 24th 2018 (organized by FAI Delegazione di Catania Gruppo di Caltagirone).

Strategie di intervento sugli edifici esistenti alla luce delle NTC 2018, Caltagirone April 21th 2018 (organized by Ordine degli Ingegneri della Provincia di Catania).

Courses as speaker

- Un patrimonio vulnerabile: riflessioni sulla vulnerabilità sismica degli edifici in muratura nella val di Noto*, Comiso, November 26th 2016 (organized by Club Unesco di Comiso).
- Modellazione e consolidamento sismico degli edifici in muratura e in calcestruzzo armato*. Bologna, November 23-24 2012 (organized by Ordine degli Ingegneri della Provincia di Bologna).
- Modellazione e consolidamento sismico degli edifici in muratura e in calcestruzzo armato*. Roma, June 6-7 2012 (organized by Associazione IdEA).
- Analisi ed adeguamento sismico di edifici in c.a. e in muratura*. Messina, April 21st 2012 (organized by Inarsind).
- Tecniche avanzate di modellazione strutturale e verifiche ai sensi delle NTC 2008*. Genova, February 24th 2012 (organized by Ordine degli Ingegneri della Provincia di Genova).
- Tecniche avanzate di modellazione strutturale e verifiche ai sensi delle NTC 2008*. Siracusa, December 6-7 2011 (organized by Ordine degli Ingegneri della Provincia di Siracusa).
- Tecniche avanzate di modellazione strutturale e verifiche ai sensi delle NTC 2008*. Milano, November 18-19 2011 (organized by Ordine degli Ingegneri della Provincia di Milano).
- Modellazione e consolidamento sismico degli edifici esistenti in muratura*. Modena, September 16th 2011 (organized by Ordine degli Ingegneri della Provincia di Modena).
- Gli edifici esistenti con struttura in muratura*. Trapani, May 27th 2011 (organized by Ordine degli Ingegneri della Provincia di Trapani).
- Vulnerabilità e miglioramento sismico di strutture e infrastrutture esistenti in muratura*, organized by International Campus srl, online classes May 17th June 6th 2024.
- D.M. 17/01/2018 E Circolare N°7 Del 21/01/2019 Strategie di Intervento per la Mitigazione della Vulnerabilità Statica e Sismica di Edifici Esistenti*, Catania November 10th – December 15th 2023 (organized by Fondazione dell'Ordine degli Ingegneri della Provincia di Catania).
- Vulnerabilità e miglioramento sismico degli edifici e delle strutture esistenti in muratura – Vulnerabilità e miglioramento sismico degli edifici esistenti in muratura ordinaria, a struttura mista, degli edifici a carattere storico monumentale, ponti in muratura multiarcata e strutture particolari quali torri campanarie, ciminiere e acquedotti*, organized by International Campus srl, online classes May 20th 2022.
- Valutazione e consolidamento sismico di edifici esistenti in muratura a carattere storico - monumentale e di edifici esistenti in c.a.*, Bologna, June 13-14 2016 (organized by Ordine degli Ingegneri della Provincia di Bologna).
- Stima della vulnerabilità sismica degli edifici esistenti in muratura e tecniche tradizionali e innovative di miglioramento sismico*. Ragusa, January-April 2015 (organized by Ordine degli Ingegneri di Ragusa)
- Il patrimonio architettonico religioso: messa in sicurezza e conservazione delle chiese*. Cosenza, May 20th -June 5th 2014 (organized by Consiglio Nazionale degli Ingegneri, Ordine degli Ingegneri di Cosenza e Fondazione Mediterranea per L'Ingegneria).
- Vulnerabilità e miglioramento sismico degli edifici esistenti in muratura*. Catania, May 30th – June 6th 2013 (organized by ANCE Catania).
- Modellazione di edifici in muratura*. Treviso, April 18-19 2013 (organized by Ordine degli Ingegneri della Provincia di Treviso).

Valutazione ed analisi di strutture esistenti in muratura. Treviso, March 21-22 2013 (organized by Ordine degli Ingegneri della Provincia di Treviso).

Corso specialistico sul recupero di edifici esistenti in muratura. Bologna, April 7th 2011 (organized by ASSOINAR).

Attendance to courses and seminars of international relevance

Course *Nondeterministic mechanics*, International Centre of Mechanical Sciences (CISM) Udine, May 9-13 2011, coords. Prof. I. Elishakoff, Prof. C. Soize.

Course *Structural Analysis of Historical Masonry Structures*, Brescia, December 1-4 2008, coord. Prof. P.B. Lourenço.

Course: *Estimating Seismic Demand for Performance-Based Engineering of Building*. Held by Prof. Anil K. Chopra at the University of Catania, June 7-9 2005.

Attendance courses and seminars of national relevance

AGEI Conference – Applied Geophysics for Engineering, Messina 24-28 Novembre 2008.

MEMBERSHIP TO SCIENTIFIC SOCIETY

Scientific society of national relevance

Member of the Gruppo Italiano Meccanica Computazionale (GIMC) (since **2011**)

Member of the Associazione Italiana di Meccanica Teorica e Applicata (AIMETA) (since **2017**)

Scientific society of international relevance

Member of the European Mechanics Society (Euromech) (since **2016**)

Member of the International Association for Life-Cycle Civil Engineering (IALCCE) (since **2023**)

REVIEW AND EDITORIAL ACTIVITY

Member of editorial board of journals

- Mathematical Problems in Engineering (Academic Editor)
- The Open Construction & Building Technology Journal (Associate Editorial Board Member)
- CivilEng (Editorial Board Member)
- Buildings (Leading Guest Editor of the special issue “Achieving Resilience and Other Challenges in Earthquake Engineering”)

Reviewer

- 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
- Sustainability
- Asian Journal of Civil Engineering
- Mechanics Based Design of Structures and Machines
- Applied Soft Computing
- Thin-Walled Structures
- Iranian Journal of Science and Technology, Transactions of Civil Engineering
- Geosciences
- CivilEng
- Bulletin of Engineering Geology and the Environment
- Journal of Earthquake Engineering

Review of PhD theses

He has been reviewer of 2 PhD theses

Evaluator of research project

Evaluator of a research project for the Swiss National Science Foundation (**2021**)

INSTITUTIONAL AND MANAGEMENT ACTIVITIES

Delegate professor

Delegate professor of the Didactic Unit of Siracusa, University of Catania, in the field of health and safety at workplace (**2024** to date)

Faculty representative

Faculty representative of the Degree Programme in Architecture, University of Catania, within the Steering Committee (**2022** to date)

PERSONAL SKILLS AND COMPETENCES

NATIVE LANGUAGE

Italian

OTHER LANGUAGES

English

Reading
Writing
Speaking

B2
B2
B2

Portuguese

Reading
Writing
Speaking

B1
A2
A2

IT COMPETENCES

General
CAD Software
FEM Software

Office Package, Internet Browser
AutoCAD
SAP2000, 3DMacro, HiStrA Arches and Vaults, HiStrA Bridge, Midas, ADINA,
Lusas, SeismoStruct

Programming languages
Social Network

MATLAB, c++, c#, Visual Basic
Facebook, Instagram, Twitter, Research Gate