

PERSONAL INFORMATION **INGRID BOEM**

JOB APPLIED FOR POSITION  
 PREFERRED JOB  
 STUDIES APPLIED FOR **Civil Engineer, Research fellow, Teaching Assistant**

WORK EXPERIENCE

07/02/23 – to date **Research fellow**  
 University of Trieste, Department of Engineering and Architecture  
 The candidate is mainly involved in the research project "strengthening of existing masonry constructions with fiber-reinforced mortar coating: calibration of a reliable numerical model to quantify structural performances". The project focuses on developing / refining / validating specific numerical modelling strategies, ranging from very high level of detail to much more rough levels of detail, to be used in design practice. Experimental results available in the literature are collected, analysed and adopted for modelling calibration and validation.

01/11/20 – 31/10/22 **MSCA (Marie Skłodowska-Curie Actions) Research fellow**  
 Czech Technical University in Prague, Faculty of Civil Engineering, Department of Concrete and Masonry Structures  
 The Individual Fellowship was funded from the European Union's Horizon 2020 research and innovation program (WF-02-2019, n.101003410). The "conFiRMa" project was aimed at calibrating a numerical model, validated in the free open source finite element code OOFEM, for the assessment of the structural performances of historic masonry buildings strengthened with Fibre Reinforced Mortar (FRM). The main purpose was to develop a multiple-level approach, starting with the detailed modeling of components (masonry, mortar matrix, fibre-based reinforcement), followed by an optimization procedure to get a computationally efficient intermediate level model, with layered elements, for the calibration of the lumped plasticity model for global analysis.

10/05/13 – 31/10/20 **Teaching Assistant of Structural Analysis and Design**  
 University of Trieste, Department of Engineering and Architecture  
 The activity consisted in guiding bachelor students in practical exercises of structural design concerning reinforced concrete buildings, providing examples and trials, supervising the evolution of their projects during the course, evaluating and marking exams.

01/11/12 – 31/10/20 **Research fellow**  
 University of Trieste, Department of Engineering and Architecture  
 The researcher participated to several research projects funded by a private company producing fiber-reinforced composite materials (FibreNet Srl, Pavia di Udine, Italy). The projects aimed at the characterization and optimization of a FRM reinforcement system for masonry structures, for commercial purposes, by performing experimental, analytical and numerical studies. The research activities allowed also the company to obtain the Slovenian Technical Approval for the use of a "CRM – Composite Reinforced Mortar – System for strengthening masonry wall" (STS-17/0013, 20.12.2017). Moreover, the researcher worked in several national projects funded by the Italian Civil Protection (which involved many Italian Universities for a broad, collective study on both masonry structures and timber structures) and an international project funded by EU. The different projects involving the candidate are specified in the following:

1/03/20 - 31/10/20	Project "Constrain" funded by "Interreg V-A Italy-Slovenia 2014-2020".
1/01/19 - 31/10/20	Project "RELUIS 2019-2021 (WP4 and WP5)" funded by the Italian Civil Protection.
01/01 - 31/12/18	Project "RELUIS 2018 – I-PR1: masonry structures" funded by the Italian Civil Protection.
01/01 - 31/12/18	Project "RELUIS 2018 – I-PR4: timber structures" funded by the Italian Civil Protection.

01/01 - 31/12/17	Project "RELUIS 2017 – I-PR1: masonry structures" funded by the Civil Protection.
01/01 - 31/12/17	Project "RELUIS 2017 – I-PR4: timber structures" funded by the Italian Civil Protection.
01/01 - 31/12/16	Project "RELUIS 2016 – I-PR1: masonry structures" funded by the Italian Civil Protection.
01/01 - 31/12/16	Project "RELUIS 2016 – I-PR4: timber structures" funded by the Italian Civil Protection.
01/11/15 - 31/10/16	Project "Numerical and experimental study of the performances of a structural reinforcement systems for existing masonry buildings using composite materials" funded by Fibre Net srl
01/01 - 31/12/15	Project "RELUIS 2015 – I-PR1: masonry structures" funded by the Italian Civil Protection.
01/01 - 31/12/15	Project "RELUIS 2015 – I-PR4: timber structures" funded by the Italian Civil Protection.
01/11/14 - 31/10/15	Project "Study of structural reinforcement systems for existing masonry buildings using composite materials (FRP meshes for masonry and pultruded profiles for floors)" funded by Fibre Net srl
01/01/14 - 31/03/15	Project "Assessment of the seismic safety of the National Museums. Application of the OPCM 3274/2003 s.m.i. and of the DPCM 12.10.2007" funded by the Italian Ministry of Cultural Heritage and Activities and Tourism MIBACT (17 Italian Universities involved).
01/01 - 31/12/14	Project "RELUIS 2014 – I-PR1: masonry structures" funded by the Italian Civil Protection.
01/01 - 31/12/14	Project "RELUIS 2014 – I-PR4: timber structures" funded by the Italian Civil Protection.
01/11/13 - 31/10/14	Project "Execution of an experimental campaign to assess the resistance increase in masonry walls strengthened through the application of a mortar coating reinforced with GFRP meshes" funded by Fibre Net srl
01/11/12 - 31/12/13	Project "RELUIS 2010–2013" funded by the Italian Civil Protection. AT1-1: New aspects in the assessment of existing structures and interventions for the assessment of seismic risk of the building heritage on a regional scale.
01/11/12 - 31/12/13	Project "RELUIS 2010–2013" funded by the Italian Civil Protection. AT2-1: Regulatory and technological innovations in seismic engineering: aspects in the seismic design of new buildings – Task 1: Timber structures.
01/11/12 - 31/10/13	Project "Experimental campaign to assess the resistance increase of masonry reinforced with the use of a GFRP fiber-reinforced composite material" funded by Fibre Net srl.

## EDUCATION AND TRAINING

01/2014 - 31/05/2017	<p><b>PhD in Engineering and Architecture</b></p> <p>University of Trieste, Department of Engineering and Architecture</p> <p>Thesis title: Enhancement of the seismic performances of historic masonry buildings through glass fiber-reinforced mortar</p> <p>Supervisor: Prof. Eng. Natalino Gattesco</p> <p>Topic: Investigation on the effectiveness of an innovative FRM (Fibre Reinforced Mortar) strengthening technique for existing masonry. Design and execution of a significantly wide number of experimental tests, so to characterise the reinforcement and evaluate its effectiveness for improving the performances of masonry considering both in-plane and out-of-plane actions. Analysis and interpretation of the experimental data, numerical simulations.</p>	QE level 8
11/2009-13/07/2012	<p><b>Master's degree in Civil Engineering</b></p> <p>University of Udine, Faculty of Engineering</p> <p>Thesis title: "La Casa del Balilla" in Gorizia: design, construction, interventions, evaluation of the structural behaviour</p> <p>Final mark: 110/110 cum laude</p> <p>Supervisors: Dott. Ing. Anna Frangipane, Prof. Ing. Stefano Sorace</p> <p>Topic: Study on an historical masonry building (aspects related to both technical architecture and structural rehabilitation). Structural assessment of the vulnerability and design of strengthening interventions using fiber-based materials.</p>	QE level 7
09/2006-02/11/2009	<p><b>Bachelor's degree in Civil Engineering</b></p> <p>University of Udine, Faculty of Engineering</p> <p>Thesis title: Typologies, materials and details of traditional timber frame construction in some seismic areas of Western Europe (Germany, France, Spain and Portugal)</p> <p>Final mark: 107/110</p> <p>Supervisors: Dott. Ing. Anna Frangipane, Prof. Ing. Alessandra Gubana</p> <p>Topic: Typological study on traditional timber frame buildings in west European countries, with a numerical comparison among the lateral-load performances of different, typical wall arrangements.</p>	QE level 6

2001 - 2006 **High school diploma**  
 Liceo Scientifico "A.Einstein", Cervignano del Friuli  
 Final mark: 100/100

QEQ level 4

**HABILITATIONS**

11/10/2022 **National Scientific Qualification**  
 as Associate Professor in the Italian higher education system for the disciplinary field of 08/B3 - Structural Engineering, released by the Italian Ministry of University and Research.

05/03/2013 **License to the professional activity of Civil and Environmental Engineer**  
 released by University of Udine (I).

**PERSONAL SKILLS**

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
<ul style="list-style-type: none"> <li>B1 level certification (Preliminary English Test), released on 19.07.2004 by "University of Cambridge, ESOL Examinations, British School" (Udine);</li> <li>B2 level certification released on 11.08.2004 by "English Language Course, Morehampton Language Institute International Schools" (Dublin)</li> </ul>					

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
 Common European Framework of Reference for Languages

**Communication skills** The communication and dissemination activities carried out in work trained the researcher skills in scientific writing, teaching, public speaking and let to spread the researcher's achievements among the scientific community, increasing her professional relevance, widening the international network of contacts and enlarging collaborations and career perspectives. The involvement also of the professional designers and fibre-based materials manufacturers trained the researcher in the knowledge transfer from research to practice, that is fundamental for an actual, positive impact of the research results on the society and also opens the possibility to future partnerships and funding outside academia.

The researcher also attended to a series of seminars and workshops aimed at enriching communication skills, concerning research communication strategies, research writing, public speaking for scientists, effective data visualization, communication of science to different publics, open access to scientific publications, preparation of posters and conference presentations, events organization, brand developing, use of social media.

**Organisational / managerial skills**

During the academic studies and research activities, as well as teaching activities, the researcher developed teamwork and organization skills, which included the interaction and collaboration with different targets (students, academics, professional designers, builders, manufacturers).

The implementation of the Marie Curie project as principal investigator developed and strengthened the researcher's autonomy and responsibility in defining and pursuing specific objectives and trained her management skills, in respect with the scheduled work plan and deadlines.

By cooperating in EU's "Interreg Italia-Slovenja" and "MSCA Individual Fellowship" projects, the researcher dealt with the proposal compilation for a European call and to project implementation, management and reporting.

Job-related skills	<p>During the MSc course, the researcher developed great interest in the rehabilitation of historical masonry structures, orienting its subsequent training and professional choices towards the use of innovative fiber-based materials to preserve these assets. Thus, she joined, as research fellow, a starting project at the University of Trieste on the use of FRM for the reinforcement of existing walls and then decided to attend the PhD course in Engineering and Architecture, dealing with this specific topic. The great expertise of the supervisor in the field of structural refurbishment provide a significant validity to the PhD thesis and improved considerably the researcher skills on this issue.</p> <p>As postdoctoral research fellow, at the University of Trieste, and Marie Curie research fellow, at the Czech Technical University in Prague, the researcher acquired and deepened her competences in design and execution of experimental tests (both in the laboratory and in the field), in the collection, analysis and interpretation of data and in the use of different tools for the numerical modelling of structures</p>
Computer skills	<ul style="list-style-type: none"> <li>• OS: Windows, macOS;</li> <li>• Daily use of web browser and electronic mail softwares;</li> <li>• Daily use of all the softwares of MS-OFFICE;</li> <li>• Other softwares: AutoCAD, Midas Fea, Midas Gen, OOFEM, Abaqus, SAP2000, Tremuri, Por2000, Mathematica;</li> <li>• Basic programming skills in the following languages: C++, Javascript, Pascal, Mathematica.</li> </ul>
Driving licence	B

#### ADDITIONAL INFORMATION

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Memberships	<p>2020 - now Member of Marie Curie Alumni Association</p> <p>2015 - now Member of the Professional Association of Engineers of the Province of Udine (Civil and Environmental Sector, section A – n.3488).</p> <p>2015 - 2019 Member of the standing Committee “Commissione Giovani” of the Association of the Engineer of the Province of Udine.</p>
Publications	<p>OCRID: 0000-0003-3646-0642; Scopus Author ID: 56035804300</p> <p>The total number of papers indexed on the international publications database “Scopus” (2012-2022) is 32, with a total of 407 citations and an h-index of 9. The total number of papers indexed on “Google Scholar” is 63, with 575 total citations and an h-index of 10.</p>
International journals	<p><b>IJ1.</b> Boem, I. 2022. Multi-layer modelling of masonry structures strengthened through textile-reinforced mortar [version 1; peer review: awaiting peer review]. Open Research Europe, 2, 132.</p> <p><b>IJ2.</b> Boem I. 2022. Masonry elements strengthened through Textile-Reinforced Mortar: application of detailed level modelling with a free open-source Finite-Element code. Construction and Building Materials, 357, 129333.</p> <p><b>IJ3.</b> Boem I. 2022. Masonry elements strengthened with TRM: a review of experimental, design and numerical methods. Buildings, 12, 1307.</p> <p><b>IJ4.</b> Boem I. 2022. Characterization of textile-reinforced mortar: state of the art and detailed level modelling with a free open-source finite element code. Journal of Composites for Construction, 26(5), 4022060.</p> <p><b>IJ5.</b> Boem I., Gattesco N. 2021. Cyclic behavior of masonry barrel vaults strengthened through Composite Reinforced Mortar, considering the role of the connection with the abutments, Engineering Structures, 228, 111518.</p> <p><b>IJ6.</b> Boem I., Gattesco N. 2020. The Roof Bracing as Minimum Intervention for the Reduction of the Seismic Vulnerability of Historical Industrial Buildings: Analytical and Numerical Simplified Strategies for the Assessment of the Performances, International Journal of Architectural Heritage, 15(2), 274-288.</p> <p><b>IJ7.</b> Brito de Carvalho Bello C., Boem I., Cecchi A., Gattesco N., Oliveira D.V. 2019. Experimental tests for the characterization of sisal fiber reinforced cementitious matrix for strengthening masonry structures. Construction and Building Materials, 219, 44-55.</p>

- IJ8.** Gattesco N., Dilena M., Boem I. 2019. Experimental and numerical study on the bending performances of glass FRP molded gratings: influence of restraining conditions and cover plates. *Composite structures*, 223, 11096.
- IJ9.** Gattesco N., Boem I., 2019. Review of experimental tests and numerical study on masonry vaults reinforced through fibre-reinforced mortar coating. *Bulletin of Earthquake Engineering*, 17(7), 4027-4048.
- IJ10.** Gattesco N., Boem I., Andretta V. 2018. Experimental behaviour of non-structural masonry vaults reinforced through fibre-reinforced mortar coating and subjected to cyclic horizontal loads. *Engineering Structures*, 172: 419–431.
- IJ11.** Gattesco N., Boem I. 2018. Masonry vaults strengthened with a GFRP reinforced mortar coating: evaluation of the resisting peak ground acceleration. *Journal of Measurements in Engineering*, 6(4): 181-189.
- IJ12.** Gattesco N., Boem I. 2017. Assessment of the seismic capacity increase of masonry buildings strengthened through the application of GFRM coatings on the walls. *International Journal of Masonry Research and Innovation*, 2(4): 300-320.
- IJ13.** Gattesco N., Boem I. 2017. Out-of-plane behaviour of reinforced masonry walls: Experimental and numerical study. *Composites Part B*, 128: 39-52.
- IJ14.** Gattesco N., Boem I. 2017. Pushover analysis based on equivalent diagonal springs for the assessment of the seismic safety of post-and-beam timber buildings braced with nailed shear walls. *Key Engineering Materials*, 755: 170-180.
- IJ15.** Gattesco N., Boem I. 2017. Masonry vaults subjected to horizontal loads: experimental and numerical investigations to evaluate the effectiveness of a FRM reinforcement. *Materials Science and Engineering*, 245, 022075.
- IJ16.** Gattesco N., Boem I. 2017. Characterization tests of GFRM coating as a strengthening technique for masonry buildings. *Composite Structures*, 165: 209-222.
- IJ17.** Gattesco N., Boem I. 2016. Stress distribution among sheathing-to-frame nails of timber shear walls related to different base connections: Experimental tests and numerical modelling. *Construction and Building Materials*, 122: 149-162.
- IJ18.** Gattesco N., Boem I. 2015. Seismic enhancement of masonry buildings strengthened through GFRP reinforced mortar coating. *Applied Mechanics and Materials*, 796: 53-67.
- IJ19.** Gattesco N., Boem I. 2015. Seismic performances and behaviour factor of post-and-beam timber buildings braced with nailed shear walls. *Engineering Structures*, 100: 674–685.
- IJ20.** Gattesco N., Boem I. 2015. Experimental and analytical study to evaluate the effectiveness of an in-plane reinforcement for masonry walls using GFRP meshes. *Construction and Building Materials*, 88: 94-104.
- IJ21.** Gattesco N., Boem I., Dudine A. 2015. Diagonal compression tests on masonry walls strengthened with a GFRP mesh reinforced mortar coating. *Bulletin of Earthquake Engineering*, 13(6): 1703-1726.
- IJ22.** Gattesco N., Boem I. 2014. Seismic behaviour of post-and-beam timber buildings braced by timber shear walls. *International Journal of Building Sustainability and Secure*, 1(2): 127-139.
- International conferences**
- IC1.** Boem I., Patzák B., Kohoutková A., "Masonry elements strengthened with TRM: modelling in "OOFEM" by using multi-layered 3D elements". 7th World Multidisciplinary Civil Engineering - Architecture - Urban Planning Symposium, WMCAUS 2022, 5-9 September 2022, Prague (CZ).
- IC2.** Gattesco N., Boem I., "Cyclic Tests on Masonry Vaults Strengthened Through Composite Reinforced Mortar: The Role of the Connection with the Abutments". In: Ilki A., Ispir M., Inci P. (eds) 10th International Conference on FRP Composites in Civil Engineering. CICE 2020/2021. Lecture Notes in Civil Engineering, vol 198. Springer, Cham.
- IC3.** Boem I., Patzák B., Kohoutková A., "Numerical simulations of masonry elements strengthened through Fibre-Reinforced Mortar: detailed level modelling using the OOFEM code". In: Castellazzi G., Gentilini C., Di Tommaso A. (eds) 7th Conference mechanics of masonry structures strengthened with composite materials. Murico7. *Key Engineering Materials*, 2022, 916:222-229.
- IC4.** Gattesco N., Boem I., "Cyclic tests on thin masonry vaults strengthened through composite reinforced mortar". In: Proceeding of the 12th International Conference on Structural Analysis of Historical Constructions. SAHC 2020, 29 September – 1 October 2021.

- IC5.** Boem I., Patzák B., Kohoutková A., "ConFiRMa: calibration of a numerical model for Fibre-Reinforced Mortar analysis with OOFEM code", *Int. Conf. of Steel and Composite for Engineering Structures*, 12-13 July 2021.
- IC6.** Boem I., Gattesco N., "Rehabilitation of masonry buildings with Fibre Reinforced Mortar: practical design considerations concerning seismic resistance", In: *Proceedings of the 22th Conference on the Rehabilitation and Reconstruction of Buildings - CRRB2020*, 19 November 2020, Brno (CZ). Also published in: Mészárosová L., *Rehabilitation and Reconstruction of Buildings IV, Key Engineering Materials*, 898.
- IC7.** Plavsic A., Pantò B., Chisari C., Macorini L., Izzuddin B.A., Boem I., Gattesco N., "Nonlinear simulations of masonry vaults under earthquake loading", In: Papadrakakis M., Fragiadakis M., *COMPADYN 2021 Computational Methods in Structural Dynamics and Earthquake Engineering*, vol. 1, p. 595-606.
- IC8.** Gattesco N., Boem I., "Evaluation of the out-of-plane performances of masonry walls strengthened with composite reinforced mortar", In: *Proceedings of the 17th International Brick and Block Masonry Conference – IB2MAC*, 5-8 July 2020, Krakow (PL). Also published in *Journal of Measurements in Engineering*, 2018, 6(4): 181-189.
- IC9.** Gattesco N., Boem I. 2019. Interaction of the multi-sloping timber roof braced through sheathing panels with masonry walls in historical industrial buildings subjected to lateral loads. In: *Proceedings of the 5th International Conference on Structural Health Assessment of Timber Structures*, 25-27 September 2019, Guimaraes, (P).
- IC10.** Gattesco N., Boem I. 2019. Numerical study on the out-of-plane performances of perforated masonry walls enhanced with composite reinforced mortar. In: *Proceedings of the 16th International Conference on Civil, Structural & Environmental Engineering Computing*, 16-19 September 2019, Riva del Garda (I).
- IC11.** Gattesco N., Boem I. 2018. Parametric study on the seismic behaviour of masonry vaults strengthened with composite reinforced mortar. In: *Proceedings of X International Masonry Conference "IMC18"*, July 9-11, Milan (I).
- IC12.** Gattesco N., Boem I. 2018. Numerical study on the reduction of the seismic vulnerability of historical industrial buildings with wide timber roofs. In: *Proceedings of the XIV Int. Conf. on Building Pathology and Constructions Repair "CINPAR 2018"*, June 20-22, Florence (I).
- IC13.** Gattesco N., Boem I. 2017. Comparison of in-plane mechanical performances of masonry walls strengthened with different mortar coatings reinforced with glass or carbon fiber composite meshes. In: Di Tommaso A., Gentilini C., Castellazzi G., *Mechanics of Masonry Structures Strengthened with Composite Materials II - MuRiCo5*, *Key Engineering Materials*, 747.
- IC14.** Gattesco N., Boem I., Gubana A., Menegon D., Bello N., Dudine A. 2017. Experimental behaviour of masonry vaults strengthened with thin extradosal or intradosal layer of fiber reinforced lime mortar. In: Di Tommaso A., Gentilini C., Castellazzi G., *Mechanics of Masonry Structures Strengthened with Composite Materials II - MuRiCo5*, *Key Engineering Materials*, 747.
- IC15.** Gattesco N., Boem I. 2016. Strengthening of masonry vaults through a thin extradosal layer of fiber reinforced lime mortar. In: *Proceedings of the 10th Int. Conf. on Structural Analysis of Historical Constructions SAHC*. Van Balen, Verstrynghe eds., CRC Press, London.
- IC16.** Gattesco N., Boem I. 2016. Influence of mortar coating type on the shear resistance of a GFRP based strengthening technique for brick masonry walls. In: *Proceedings of the 16th International Brick and Block Masonry Conference – IB2MAC*, June 26-30, Padua (I).
- IC17.** Gattesco N., Boem I. 2015. Numerical Simulation of the Out-of-plane Performance of Masonry Walls Strengthened with a GFRP Reinforced Mortar. In: *Proceedings of the XV Int. Conf. on Civil, Structural and Environmental Engineering Computing "Civil-Comp 2015"*, September 1-4, Prague (CZ).
- IC18.** Gattesco N., Boem I. 2015. A numerical study on multiple bolted connection through glass pultruded members. In: *Proceedings of the Fifteenth Int. Conf. on Civil, Structural and Environmental Engineering Computing "Civil-Comp 2015"*, September 1-4, Prague (CZ).
- IC19.** Gattesco N. Boem I. 2014. Out-of-plane behaviour of masonry walls strengthened with a GFRP reinforced mortar coating. In: *Proceedings of the IX Int. Masonry Conference*, July 7-9, Guimaraes (P).
- IC20.** Gattesco N., Boem I., Dudine A. 2013. Behaviour of Existing Masonry Strengthened with a GFRP Reinforced Mortar Coating. In: *Proceedings of the XIV Int. Conf. on Civil, Structural and Environmental Engineering Computing "CC2013"*, September 3-6, Cagliari (I).

- National journals
- NJ1.** Boem I., Dudine A., Gattesco N. 2022. La protezione sismica degli edifici esistenti in muratura: un percorso di ricerca sulla tecnica "Composite Reinforced Mortar", in *GENIO* – in Italian.
  - NJ2.** Gattesco N., Boem I. 2020. Rinforzo di volte non portanti in muratura mediante sistemi CRM e FRCM. in *GENIO* – in Italian.
  - NJ3.** Boem I., Gattesco N. 2020. Vulnerabilità sismica degli edifici dell'archeologia industriale: una strategia d'intervento a limitata invasività, *Structural, DeLettera WP ed.*, 228, paper 11, ISSN 2282-3794 – in Italian.
  - NJ4.** Gattesco N., Boem I. 2017. Strengthening of masonry vaults through reinforced mortar coating with GFRP meshes - Experimental study for the evaluation of the effectiveness of a reinforcement mortar coating with GFRP meshes. in *GENIO*, 55 – in Italian.
  - NJ5.** Borri A., Sisti R., Gattesco N., Boem I., Dudine A. 2013. Experimental tests on fair-face masonry strengthened with GFRP mesh and mortar coating and steel strands embedded in mortar joints. *Structural, DeLettera WP ed.*, 182, paper 24 – in Italian.
  - NJ6.** Gattesco N., Boem I., Dudine A. 2.13 Use of GFRP meshes to strengthen existing masonry walls. *Structural, DeLettera WP ed.*, 181, paper 22 – in Italian.

- National conferences
- NC1.** Boem I., Patzák B., Kohoutková A. 2022. Study on the effectiveness of the CRM system: numerical simulations on masonry piers with OOFEM layered elements. In: Proceedings of the Conference "ANIDIS XIX & ASSISi XVII", September 11-15, Turin (I).
  - NC2.** Boem I., Gattesco N. 2022. Composite Reinforced Mortar (CRM) and Fiber-Reinforced Cementitious Matrix (FRCM) for the seismic protection of masonry vaults. In: Proceedings of the Conference "ANIDIS XIX & ASSISi XVII", September 11-15, Turin (I).
  - NC3.** Gattesco N., Boem I. 2019. Classification of Friuli-Venezia Giulia masonry school buildings for seismic risk models purposes. In: Proceedings of the XVIII Conference "ANIDIS, L'Ingegneria Sismica in Italia", September 15-19, Ascoli Piceno (I) - in Italian.
  - NC4.** Gattesco N., Boem I. 2019. Rapid intervention strategies or the reduction of the seismic vulnerability of masonry towers: the case studies of a bell tower and a chimney. In: Proceedings of the XVIII Conference "ANIDIS, L'Ingegneria Sismica in Italia", September 15-19, Ascoli Piceno (I) - in Italian.
  - NC5.** Gattesco N., Boem I. 2017. Experimental and numerical study on the behaviour of masonry vaults subjected to horizontal loads: evaluation of the effectiveness of fiber reinforced mortar. In: Proceedings of the XVII Conference "ANIDIS, L'Ingegneria Sismica in Italia", September 17-21, Pistoia (I) - in Italian.
  - NC6.** Gattesco N., Boem I. 2017. Assessment of the seismic safety of post and beam timber buildings braced with nailed shear walls: pushover analysis based on equivalent diagonal springs. In: Proceedings of the XVII Conference "ANIDIS, L'Ingegneria Sismica in Italia", September 17-21, Pistoia (I) - in Italian.
  - NC7.** Gattesco N., Boem I. 2017. Strategies and modeling methods for the reduction of the seismic vulnerability of historical industrial buildings with wide timber roofs. In: Proceedings of the XVII Conference "ANIDIS, L'Ingegneria Sismica in Italia", September 17-21, Pistoia (I) - in Italian.
  - NC8.** Gattesco N., Boem I., Gratton L. 2017. Diagnostic analysis and assessment of the structural deficiencies of monumental buildings subject to seismic actions. In: Proceedings of the XVII Conference "ANIDIS, L'Ingegneria Sismica in Italia", September 17-21, Pistoia (I) - in Italian.
  - NC9.** Gattesco N., Boem I., Gratton L. 2015. Analysis of the behaviour of nailed timber frame shear walls through experimental tests and numerical simulations. In: Proceedings of the XVI Conference "ANIDIS, L'Ingegneria Sismica in Italia", September 13-17, L'Aquila (I).
  - NC10.** Gattesco N., Boem I., Dudine A. 2015. Seismic performance of existing masonry buildings strengthened by applying GFRP fiber reinforced lime mortar on both faces of the walls. In: Proceedings of the XVI Conference "ANIDIS, L'Ingegneria Sismica in Italia", September 13-17, L'Aquila (I).
  - NC11.** Gattesco N., Boem I. 2015. Numerical study on the out-of-plane bending resistance of masonry walls enhanced with a GFRP reinforced mortar coating. In: Proceedings of the XVI conference ANIDIS, L'Ingegneria Sismica in Italia, September 13-17, L'Aquila (I) - in Italian.

## Conferences

- 11-15/09/22 XIX Conference "ANIDIS XIX & ASSISi XVII", Turin (I): presentation of the paper **NC1**, in Italian.
- 05-09/09/22 7th World Multidisciplinary Civil Engineering - Architecture - Urban Planning Symposium "WMCAUS 2022", presentation of the paper **IC1**, in English
- 26/03/2022 2022 MCAA Annual Conference
- 08-10/12/21 10th International Conference on FRP Composites in Civil Engineering "CICE 2020/2021" presentation of the paper **IC2**, in English.

08-10/12/21	10th International Conference on FRP Composites in Civil Engineering "CICE 2020/2021" presentation of the paper <b>IC2</b> , in English.
24-26/11/21	7th Conference Mechanics Of Masonry Structures Strengthened With Composite Materials "Murico7": presentation of the paper <b>IC3</b> , in English.
29/09-01/10/21	12th International Conference on Structural Analysis of Historical Constructions "SAHC 2020": presentation of the paper <b>IC4</b> , in English.
11-12/07/21	International Conference of Steel and Composite for Engineering Structures "ICSCEs 2021": presentation of the paper <b>IC5</b> , in English.
19/11/20	22th Conference on the Rehabilitation and Reconstruction of Buildings "CRRB2020", Brno (CZ): presentation of the paper <b>IC6</b> , in English.
05-08/07/20	17th International Brick and Block Masonry Conference "IB2MAC", Krakow (PL): presentation of the paper <b>IC8</b> , in English.
25-27/09/19	V International Conference on Structural Health Assessment of Timber Structures "SHATIS19", Guimarães (PT): presentation of the paper <b>IC9</b> , in English.
15-19/09/19	XVII Conference "ANIDIS, L'ingegneria Sismica in Italia", Ascoli Piceno (I): presentation of the papers <b>NC3</b> and <b>NC4</b> , in Italian.
20-22/06/18	XIV International Conference on Building Pathology and Constructions Repair "CINPAR 2018", Florence (I): presentation of the paper <b>IC11</b> , in English.
28-30/06/17	5th International Conference on Mechanics of Masonry Structures Strengthened with Composite Materials "MuRiCo5", Bologna (I): presentation of the paper <b>IC13</b> , in English.
26-30/06/17	16th International Brick and Block Masonry Conference "IB2MAC", Padua (I): presentation of the paper <b>IC16</b> , in English.
17-20/09/17	XVII Conference "ANIDIS, L'ingegneria Sismica in Italia", Pistoia (I): presentation of the papers <b>NC5</b> and <b>NC6</b> , in Italian.
13-17/09/15	XVI Conference "ANIDIS, L'ingegneria Sismica in Italia", L'Aquila (I): presentation of the papers <b>NC9</b> and <b>NC11</b> , in Italian.
01/07/13	XV Conference "ANIDIS, L'ingegneria Sismica in Italia", Padua (I).

#### Collaborations

- Collaborations with national and international technical committees
  - 2015 - 2020 Participation to the activities of the RILEM Technical Committee 250-CSM: "Composites for Sustainable Strengthening of Masonry" and, in particular, to the testing campaign "Round robin test on the tensile behaviour and bond performance of the mortar based strengthening systems for the reinforcement of masonry" (Leone et al., Composites Part B: Engineering 2017, 127:196-214).
  - 2015 - 2020 Participation to the activities of the Italian CNR (National Research Council) Commission for the drafting/updating of the instructions concerning the design, execution and testing of timber structures (CNR-DT 206 R1/2018) and of the technical document for timber buildings design in seismic area
- Collaborations in European projects
  - 1/11/20 - 31/10/22 Implementation of the CONFIRMA project (WF-02-2019, n.101003410), funded by the European Union's Horizon 2020 research and innovation program (Marie Skłodowska-Curie Actions) as experienced research.
  - 1/03/20 - 31/10/20 Implementation of the funded European project CONSTRAIN (34455, "Interreg V-A Italia Slovenia 2014-2020, 7/2019, Axis 1"). The project was proposed by the Universities of Trieste and of Ljubljana together with four Companies operating in the civil engineering sector.
  - 1/08/16 - 31/10/17 Project D1816000220007 "Eco-sustainable and insulating fiber-reinforced coatings for structural reinforcements", funded by the European Commission POR-FESR 2014-2020, Axis 1.3. Research Units: company Fibre Net srl, University of Trieste and of Perugia.
  - 06/16 - 09/16 Application for a European call "Interreg V-A Italia Slovenia 2014-2020, call 3/2016, Axis 3" (INARCHE\_1473154983). The INARCHE project was proposed by the ZAG of Ljubljana, the Universities of Trieste and of Udine and other public authorities.
- Other collaborations with Universities and Research Institutes
  - ZAG of Ljubljana (prof. M. Tomazevic, dr. M. Lutman, dr. M. Gams): strategies for the refurbishment archaeological industrial buildings and numerical methods for the analysis of masonry structures strengthened with FRM.
  - Imperial College of London (dr. Lorenzo Macorini, prof. Bassam A. Izzuddin): meso-scale numerical models for the simulation of the behaviour of FRM reinforced masonry vaults.
  - University of Venice (prof. A. Cecchi and dr. C.B. de Carvalho Bello) and University of Minho (prof. D.V Oliveira): mechanical characterization of FRM with sisal yarns.

University of Salento, Lecce (prof. M.A. Aiello and prof. F. Micelli): comparison of the results obtained from different experimental campaigns for the development of a robust design strategies for the FRM reinforcement of masonry subjected to in-plane actions.

University of Udine (prof. A. Gubana and dr. M. Melotto): assessment of the performances of masonry walls and vaults strengthened through the FRM technique.

University of Perugia (prof. A. Borri and dr. R. Sisti): analysis of the experimental tests on FRM reinforced masonry walls subjected to in-plane and out-of-plane actions.

#### Lectures / seminars held

09/06 - 24/06 - 15/07/2022	"Modeling of reinforced masonry with composites and applications": three lectures were held by the researcher in the context of the seminars organized within the Interreg ITALIA- SLOVENIJA "CONSTRAIN" project, addressed to members of Professional Associations of Civil Engineers and Civil Engineering students.
27/05/2022	"The strengthening of existing masonry through Textile Reinforced Mortar: a tale of research" (Czech Technical University in Prague). The lecture opened the PhD workshop of the Department of Concrete and Masonry Structures of the Czech Technical University.
02/2022	"Seismic vulnerability of existing masonry buildings" (Czech Technical University in Prague). Lectures addressed to the bachelor students attending the course "Concrete Structures 2", aimed at giving an overview of the seismic vulnerability of existing masonry buildings and of the available strengthening techniques to improve their performances.
25/01/2022	"The OOFEM modelling of masonry elements strengthened through Fibre-Reinforced Mortar" (Czech Technical University in Prague). The workshop was organized in cooperation with the "OOFEM group" at the Czech Technical University in Prague, within a series of workshops to share knowledge, insights and results on the OOFEM code.
01/10/2021	"CRM system: from evaluation of results to design modelling" (Udine, I). The seminar was held in the context of the "Fibrenet-Roefix Academy 2021" workshop addressed to the Civil Engineers of Croatia.
2013-2019	In collaboration with prof. M.A. Aiello (University of Salento, Lecce) and prof. A. Borri (University of Perugia), the researcher contributed with prof. N. Gattesco (University of Trieste) to the dissemination of knowledge on the application of composites reinforcement on masonry structures through technical meetings for civil engineers, promoted by the company Fibre Net s.r.l. In particular, more than 60 meetings were held in several Italian cities.

#### Seminars / courses attended

•	Technical skills
14/07/2022	"Recent advances on structural analysis of unreinforced masonry buildings" (Universidade Do Minho)
24-26/05/2022	"Introduction to Non Destructive Evaluation and Structural Health Monitoring" (Czech Technical Univ.)
12/04/2022	"Basic Application of Structural Engineering in Diana: Masonry Buildings" (Institute for Sustainability and Innovation in Structural Engineering , PT)
23/03/2022	"The challenge of resilient structures: from traditional approaches to Internet of Things (IoT) applied to Structural Health Monitoring of critical Infrastructures" (Brunel University London)
08/03/2022	"Interaction diagram for columns with multi-spiral reinforcement: modelling and experimental evidence" (Czech Technical University, OOFEM group)
15/02/2022	"Salome platform integration with OOFEM" (Czech Technical University, OOFEM group)
01/02/2022	"Contact Mechanics in OOFEM" (Czech Technical University, OOFEM group)
15/11/2021	Specific seminary, issued by CISM (Centre International des Sciences Mecaniques) in Udine (I) concerning seismic vulnerability of Reinforced Concrete structures.
13-15/09/2021	Course, issued by Prof. B. Patzak (Czech Technical University of Prague), concerning training on the free finite element code OOFEM for numerical finite element analysis
12/2020	Course on the post-processing software "Paraview" (OOFEM group)
11/2020	Course on the pre-processing software "Salome" (OOFEM group)
14-16/09/2020	Course, issued by Prof. B. Patzak (Czech Technical University of Prague), concerning training on the free finite element code OOFEM for numerical finite element analysis.
20-22/05/2020	Lectures issued by Dr. M.A. Zanini (University of Padua), concerning the seismic reliability and risk analysis of reinforced concrete structures.
30/11/2018	Course issued by Professional Association of Engineers of the Province of Udine, concerning the seismic performances of non-structural elements in buildings.
03-04/05/2018	Course issued by CISM (Centre International des Sciences Mecaniques) in Udine (I) concerning numerical tools for structural analysis.

- 23-24/02/2018 Course issued by CNI (Engineers National Council), concerning the release of the new building code.
- 13/03/2017 Course issued by Professional Association of Engineers of the Province of Naples, concerning the classification of the seismic risk design of buildings.
- 17-18/02 10-11/03 24-25/03/2017 Course issued by Professional Association of Engineers of the Province of Udine, concerning the design of steel structures.
- 02/12/2016 Course issued by Professional Association of Engineers of the Province of Udine, concerning the ethic codes of engineers.
- Transversal skills
- 18-19/10/2022 Attendance to the Open Science Conference 2022 (Science Europe)
- 10-13/10/2022 Attendance to the 5th Science Communication School (University of Padua and Marie Curie Alumni Association - Italy Chapter)
- 09/09/2022 "Tips for Science Communication" (Marie Curie Alumni Association - Communication Working Group)
- 12-13/07/2022 Attendance to EuroScience Open Forum 2022 (ESOF) - MSCA Setellite event (Marie Skłodowska-Curie Actions)
- 03/05/2022 "Overskilling of Ph.D: histories of hard science" (Find Your Doctor & Marie Curie Alumni Association - Italian Chapter)
- 28/04/2022 "Sharing knowledge or doing science together? How scientists should communicate with publics: assumptions, situations, challenges" (Marie Curie Alumni Association - Italy Chapter)
- 08/04/2022 "Effective data visualization: design graphics to tell stories in an engaging way" (Marie Curie Alumni Association - Communication working group)
- 29/03/2022 "The academic mental health landscape: fighting the imposter syndrome" (Marie Curie Alumni Association - North America Chapter)r
- 11/03/2022 "Career development and research funding for MCAA researchers and beyond" (Marie Curie Alumni Association - Swiss chapter)
- 14/01/2022 "Public speaking for scientists" (Marie Curie Alumni Association - Communication working group, 14 January 2022)
- 30/10/2021 "Research writing: teaching approaches and assessment practices" (Association of Academic Writing Experts "National Writing Centers Consortium" NWCC)
- 24/06/2021 "How to build a communication strategy" (Marie Curie Alumni Association - Communication working group).
- 28/05/2021 "Making the most of your MSCA Individual Fellowship" (REA research executive agency)
- 07/05/2021 "Good practices in open access to scientific publications and research data management" (Marie Curie Alumni Association - Italian Chapter)
- Other activities
- 17/02/2023 - now Guest editor of the Special Issue " "Maintenance, Repair and Rehabilitation of Building Structures"" in the Journal "Building" (MDPI).
- 12/07/2021 Chairwoman at the International Conference of Steel and Composite for Engineering Structures, 12-13 July 2012, Ancona, Italy (Mini Symposium: Composite Materials for strengthening interventions of masonry structures: experiments, modelling and analysis)
- 06/2020 Co-supervisor of a master's degree thesis at the Department of Engineering and Architecture of the University of Trieste, titled: "Studio sperimentale del comportamento ciclico di volte non portanti in muratura rinforzate mediante applicazione di reti in fibre di vetro o carbonio disperse in matrice inorganica" (Candidate: A. Miniussi)
- 2017-now Reviewer of papers for international journals (e.g. Construction and Building Materials - Elsevier, Composites Part B: engineering - Elsevier, Structures - Elsevier, Journal of Materials in Civil Engineering - ASCE, Materials and Structures - Springer, Bulletin of Earthquake Engineering - Springer, CivilEng - MDPI, Applied Science - MDPI, International Journal of Masonry Research and Innovation - Inderscience, Journal of Civil Engineering and Management - VGTU Journals) and conferences (e.g. MuRiCo5, 28-30/6/17, Bologna, I).
- 2013-now Specific studies performed on deficiencies of actual structures: enhancement of a reinforced concrete and hollow tiles mixed floors at the University of Trieste (2013-2014 and 2019), evaluation of structural vulnerability of "Sala Petrarca", in the historical "Trgovski Dom" building in Gorice, Italy (2015-2016) and of a school in Udine, Italy (2019), structural improvement of the 30 m height Bell Tower in Tapogliano, Italy (06-08/2017), structural evaluation of a historic building in Trieste (2019),

Personal data I authorize the processing of my personal data pursuant to Legislative Decree 30 June 2003, n. 196 "Code regarding the protection of personal data" and the GDPR (EU Regulation 2016/679)

Aquileia, 17/02/2022

A handwritten signature, appearing to be 'I', written in black ink.