Pietro Meriggi

BScEng, MScEng, PhD, CEng

Curriculum Vitae

PERSONAL INFORMATION

Name Pietro Meriggi

Profession Civil Engineer - Researcher/Assistant Professor

Nationality Italian Date of birth 23/11/1992

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Researchgate - https://www.researchgate.net/profile/Pietro_Meriggi

Scopus - https://www.scopus.com/authid/detail.uri?origin=AuthorProfile&authorId=57203577537&zone=

Research group - https://www.romatrestrutture.eu

RESEARCH INTERESTS AND EXPERTISE

Field of interest: analysis, monitoring and preservation of existing and historical buildings, with a particular focus in the conservation of cultural heritage. Activities and expertise: analytical and numerical (discrete element modelling - DEM) analysis of the static and seismic behaviour of masonry constructions [1,4,5,6,11,12,13,19,22,26,29,30]*, laboratory and field testing of both traditional and innovative/sustainable materials and of full-scale masonry structural members [3,8,10,15-18,20,21,23,24,25,27,28,32,33], development and design of composite systems (FRCM/TRM, CRM) and rules for structural strengthening [13,19,22,31-33], non-destructive surveying and monitoring of existing structures and infrastructures with innovative digital systems (digital photogrammetry and image/video processing techniques) [2,5,7,9,14].

*See the list of publications at the end of the CV

WORK EXPERIENCE

Research

Jul. 2022 - Present Researcher RTD-A/Assistant Professor in Structural Engineering (Tecnica delle Costruzioni - SSD ICAR/09)

Department of Civil Engineering, Computer Science and Aeronautical Technologies, Roma Tre University - Via Vito

Volterra 62, 00146 Rome (Italy)

Postdoctoral researcher in Structural Engineering Apr. 2021 - June 2022

Department of Engineering, Roma Tre University - Via Vito Volterra 62, 00146 Rome (Italy)

Research assistant within the research projects titled "Guidelines for the design of FRCM strengthening systems" (Apr. – June 2021) and "STAND - Assessment and analysis of tunnelling-induced damage to the historical-architectural heritage"

(Jul. 2021 - June 2022).

Nov. 2019: Visiting Ph.D. Student in Civil Engineering

Institut Français des Sciences Technologies des Transports de l'Aménagement et des Réseaux (IFSTTAR) - Cité Jan. - Mar. 2020 Descartes, 14, BD Newton, 77420 Champs sur Marne (Paris, France)

3D printing of concrete structures: development of new strengthening techniques; mortar-based composites for the strengthening of digital concrete structures (Jan. - Mar. 2020).

Laboratoire des Matériaux Composites pour la Construction (LMC2) - Université Claude Bernard Lyon 1, France Shear-compression tests on full scale irregular-stone masonry panels reinforced with FRCM systems (Nov. 2019).

Nov. 2017 - Apr. 2021 Ph.D. Student in Civil Engineering

Department of Engineering, Roma Tre University - Via Vito Volterra 62, 00146 Rome (Italy)

Research activity on rehabilitation of masonry structures: FRCM systems for the strengthening of masonry.

Apr. - Oct. 2017: Research consultant

Department of Engineering, Roma Tre University - Via Vito Volterra 62, 00146 Rome (Italy) Dec. 2018:

Sept. - Oct. 2020;

2022: Systematisation of research results related to the design of the strengthening of masonry vaults with inorganic matrix composite materials (starting 1 April, duration 1 month); 2020: Technical and scientific assistance for the execution of Apr. 2022 experimental tests for the mechanical characterization of mortar-based composites; 2018: Technical and scientific

assistance for the execution of in-situ testing of masonry vaults strengthened with composite materials; 2017: Technical and scientific assistance for the development of guidelines for the design of masonry structures, under seismic load, strengthened with FRCM/TRM systems.

Professional activity

Support to design activities in the field of rehabilitation of structures, related to safety verification of existing buildings, with reference to: seismic vulnerability of school buildings^(a), structural survey and assessment of monumental^{(b)-(d)} and civil buildings, structural upgrade of architectural heritage^(e), and reconstruction of churches in seismic areas^(f). The most important works include: Leopoldo Franchetti primary school, San Giuseppe dei Falegnami al Foro Romano Church, Viale Mazzini 6 - residential complex, the Church of SS. Biagio e Carlo ai Catinari in Rome, the Circus of Maxentius, the Casale della Cervelletta farmhouse in Rome (Italy), Santa Maria Maggiore in Tuscania (Viterbo, Italy) Church, and the Church of S. Emidio, in Poggio Vitellino (Rieti, Italy). These activities included structural and crack pattern survey with traditional and latest techniques (aerophotogrammetry and laser scanning), numerical modelling and structural assessment, and design of strengthening interventions with innovative technologies (e.g., mortar-based externally bonded composites).

(a-(f) See the CV section "Participation in research projects and agreements"

EDUCATION, PROFESSIONAL LICENCES AND AWARDS

Education

Nov. 2017 - Apr. 2021

Ph.D. in Civil Engineering (European label)

- Specialization field: Rehabilitation of masonry structures and seismic preservation of the built heritage
- Title of the thesis: "Fabric Reinforced Cementitious Matrix systems for the strengthening of masonry: experimental investigation and design rules", 27 April 2021, Tutors: Prof. G. de Felice, Doc. S. De Santis
- Awards: Federbeton ACI Italy Chapter Award 2020 best PhD Thesis 2018-2020 on "Innovation in Concrete Structures and Cementitious Materials"

Oct. 2014 - Mar. 2017

Master's Degree in Civil Engineering for the Protection of Territory from Natural Risks

Roma Tre University - Via Vito Volterra 62, 00146 Rome (Italy)

- Specialization field: Structures and Seismic Risk
- Mark: 110/110 cum Laude

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 Title of the thesis: "Distinct Element modelling of the out-of-plane seismic behaviour of masonry walls", 22 March 2017, supervisor Prof. G. de Felice, field of rehabilitation of masonry structures and preservation of the cultural heritage

Oct. 2011 - Oct.2014

Bachelor's Degree in Civil Engineering

Roma Tre University - Via Vito Volterra 62, 00146 Rome (Italy)

■ Mark: 110/110 cum Laude

■ Title of the thesis: "Accessibility to the new stadium of Rome", 24 October 2014, supervisor Prof. S. Carrese, field of transportation engineering

Sept. 2006 - Jul. 2011

High School Diploma in Scientific Studies

High School in Science Education "Farnesina" – Via dei Giuochi Istmici 64, 00135 Rome (Italy)

■ Mark: 100/100

Professional Licences

Jan. 2018 - Present

Licence to the professional activity of Civil and Environmental Engineer (5 October 2017, 1st Session – Roma Tre University, Department of Engineering) and Enrolment in the Board of Engineers of Rome, Section A (Civil and Environmental Engineering) at n. 37129 (8 January 2018)

Scholarships and awards

Sept. 2022 Winner of the grant "Contributi premiali per i ricercatori e assegnisti di ricerca per rafforzare la condizione professionale e potenziare il sistema della ricerca del Lazio" funded by Programma Fondo Sociale Europeo Plus (FSFL)

Nov. 2021 Federbeton – ACI Italy Chapter Award 2020: best PhD Thesis 2018-2020 on "Innovation in Concrete Structures and Cementitious Materials" (4th edition)

Nov. 2017 - Dec. 2020 3-year Ph.D. scholarship

Oct. 2014 - Oct. 2015 University fees exemption as merit student

CONFERENCES, SEMINARS AND WORKSHOPS

June 2022 8th ECCOMAS Congress 2022, Oslo, Norway, 5 – 9 June 2022. Oral presentation of paper 22*.

Nov. 2021 ACI-Italy Chapter - Innovation in Concrete Structures and Cementitious Materials 2020 – 4th Edition, MADE Expo Milan 2021 - Milan, Italy – 24 November 2021. Invited speaker. Presentation of the PhD Thesis, awarded as best PhD Thesis 2018-2020 on "Innovation in Concrete Structures and Cementitious Materials" by Federbeton and ACI-Italy Chapter.

Nov. 2021 2nd fib Italy YMG Symposium - Rome, Italy – 18-19 November 2021. Oral presentation of paper 19*.

May 2021 Research Seminar Programme - Concrete and Earthquake Engineering Group - Civil and Structural Department of the University of Sheffield (UK) - Sheffield, U.K. - 7 May 2021. Invited speaker. Online presentation of the PhD Thesis.

Jul. 2020 2nd RILEM International Conference on Concrete and Digital Fabrication - Digital Concrete 2020 – Eindhoven, Netherlands - 6-9 July 2020. *Participation in the online conference.*

Oct. 2019 1st fib Italy YMG Symposium - Parma, Italy – 15 October 2019. Oral presentation of paper 16*.

June 2019 6th International Conference on mechanics of masonry structures strengthened with composite materials – MuRiCO6 - Bologna, Italy – *26-28 June 2019. Author of paper 5**.

Jul. 2018 9th International Conference on FRP Composites in Civil Engineering (CICE2018) - Paris, France – 17-19 July 2018. Oral presentation of paper 10*.

Jan. 2018 Rilem TC250-CSM: 10th meeting in Rome – Guide to Design and Construction of Externally Bonded FRCM Systems for Repair and Strengthening Masonry Structures - Rome, Italy – 18-19 January 2018. Organization of the meeting and oral presentation on "Strengthening of masonry structures with FRCM composites: Field application examples"

*See the list of publications at the end of the CV

COURSES AND TRAININGS

Sept. 2021-2023; International Summer School on Historic Masonry Structures

June 2018 Segovia, Spain – September 2023, Anagni, Italy – September 2021 and 2022 (*Teaching assistance*), Subiaco, Italy – 17-30 June 2018 (*Scholar*)

90 hours, Profi. M. Angelillo, G. de Felice, S. Huerta, J. Ochsendorf, P. Block, M. DeJong and others. Università degli Studi di Salerno, Universidad Politécnica de Madrid, Università degli Studi Roma Tre, Massachusetts Institute of Technology, ETH Zurich. https://www.himass.org

Apr. 2021

1-day training course with certificate on the use of MTS Landmark 100kN Universal Testing Machine. MTS Italy S.r.l.

Jan. - Mar. 2020 French language course - session "intermédiaire" B1 (22 hours). Paris-Est University, Paris, France

Oct. - Dec. 2018 Numerical and Statistical Methods for Civil Engineering. Roma Tre University, Rome, Italy. 54 hours, Prof. G. Bellotti

May 2018 Electrical aspects related to laboratory measurements in the field of civil engineering

Roma Tre University, Rome, Italy. 36 hours, Ing. M. La Rosa

Sept. 2017 Short Course on Computational methods for the seismic assessment of structures Roma Tre University, Rome, Italy. 36 hours, Proff. Paolacci, F., Fragiadakis, M., and L. Di Sarno

COMMITTES, PROJECTS, REVIEW AND TEACHING

Participation in scientific technical committees and international research groups

- RILEM TC 250-CSM (2012-2019) Composites for Sustainable Strengthening of Masonry. Related works: [12,14,15]**
- ACI 549-0L Liaison Subcommittee Design and Construction of Externally Bonded Fabric Reinforced Cementitious Matrix (FRCM) and Steel Reinforced Grout (SRG) Systems for Repair and Strengthening Masonry Structures (2017–2019). Contributor to the document ACI 549.6R-20, Farmington Hills, MI, USA, November 2020. *Related works:* [12]
- RILEM TC 292-MCC Mechanical Characterization and Structural design of Textile Reinforced Concrete (2018-2024). Related works: STAR report on TRC (ongoing)
- Joint research activity between Roma Tre University and Lyon 1 University (2019–2021). Shear-compression tests on full scale irregular-stone masonry panels reinforced with FRCM systems, LMC2 Laboratory, Lyon-1 University Lyon, France. Role: Task leader. Related works: [3,4]

Participation in research projects and agreements

- Pe5 CHANGES Cultural Heritage Active innovation for Next-gen Sustainable society Spoke 7, WP4. Funded by Next Generation EU (2023-2025). Role: Team member.
- dPC − ReLUIS: WP5 − Low-impact, integrated, rapid intervention. Task 5.3 Interventions on buildings of worship, Task 5.4 − Interventions on Bridges. WP14 − Regulatory contributions on innovative structural materials for sustainable construction. Task 14.2 − Use of non-metallic reinforcement in reinforced concrete structures. Funded by Department of Civil Protection (2022-2024). *Role: Team member.* [1,3,6,8,12,13]
- RIPARA Integrated systems for the seismic retrofitting of architectural heritage. Funded by Regione Lazio (2022-2023). *Role: Team member.* [1,3,6,9,12,13]
- MLAZIO An integrated methodology for the calculation of static and seismic risk of bridges and viaducts in Lazio region. Funded by Regione Lazio (2022-2024). Role: WP leader. [2,7,14]
- STAND Assessment and analysis of tunnelling-induced damage to the historical-architectural heritage. Funded by Regione Lazio (2021-2023).
 Role: Team member. [6,9,12]
- SiCura Sustainable technologies for the seismic protection of cultural heritage. Funded by Regione Lazio (2018-2020). *Role: Team member. Related works:* [15,22,16,19,23,24]

- SISMI Technologies for the protection and reconstruction of historic centres in earthquake prone areas. Funded by Regione Lazio (2018-2019). Role: Team member. Related works: [15,22,23]
- dPC ReLUIS: WP14 Regulatory contributions to innovative materials for the retrofitting of existing structures. Funded by Department of Civil Protection (2019-2021). Role: Team member. Related works: [10,17,18,19,21,23,24]]
- dPC ReLUIS Line 1: Masonry constructions. Line 6: innovative materials for the seismic retrofitting of existing structures. Funded by Department of Civil Protection (2014-2018). Role: Team member. Related works: [26,29]
- ITALY USA Science and Technology Cooperation 2016-2018 Composites with inorganic matrix for sustainable strengthening of architectural heritage. Funded by the Italian Ministry for Foreign Affairs. Role: Team member. Related works: [22,25,27-30]
- (a) Agreement between the First City Hall of Rome and the Department of Engineering of Roma Tre University for diagnostic and structural supplies related to the seismic vulnerability of school buildings. Funded by Comune di Roma (2018). Role: Team member.
- (b) Consultancy assignment for a static-structural assessment of the reconstructive hypothesis of the archaeological elements of the Circus of Maxentius, within the framework of the project BIMHERIT: BIM for Cultural Heritage (2023). Role: External consultant. Related works: [5]
- (c) Agreement between the Direzione Generale Musei Lazio and the Department of Civil, Computer Science and Aeronautical Technologies Engineering of Roma Tre University for the analyses of the structures of Santa Maria Maggiore in Tuscania, Viterbo (Italy). Role: Team member. Related works:[6,12]
- (d) Agreement between the City of Rome and the Department of Civil, Computer Science and Aeronautical Technologies Engineering of Roma Tre University for the analyses of the structures of Casale della Cervelletta, Rome (Italy). Role: Team member. Related works: [1]
- (e)Consulting and research agreement between the RTI headed by Carla Tomasi srl and the Department of Engineering of Roma Tre University for the preservation and the consolidation of the Church SS. Biagio e Carlo ai Catinari in Roma (2021-2022). Role: Team member.
- Reconstruction of the church of S. Emidio in Poggio Vitellino (2022-2024). Role: Team member. **See the list of publications at the end of the CV

Review, teaching and supervision activity

- Reviewer of International Scientific Journals: Construction and Building Materials, Engineering Structures, Structures (Elsevier), Materials and Structures (Springer), Buildings (mdpi), Open Research in Europe.
- Reviewer of Research projects: VINCI 2023 Programme (Italian-French University).
- Subject expert in the SSD ICAR/09 courses (Building Technology/Tecnica delle costruzioni) and member of the examination committee within undergraduate and postgraduate courses of Steel and Reinforced Concrete Structures (Tecnica delle Costruzioni), Design of Structures (Progetto di Strutture), Earthquake Engineering (Costruzioni in Zona Sismica) and Rehabilitation of Structures (Riabulitazione delle Strutture) (2017-Present)
- Lecturer of the course "Sustainable structural design and retrofitting" Master's Degree in Sustainable Coastal and Ocean Engineering Roma Tre University, Department of Civil Engineering, Computer Science and Aeronautical Technologies, Roma Tre University - 54 hours, 6 CFU (Sept. 2022-Present)
- Teaching assistant within "Earthquake Engineering" course Master's Degree in Civil Engineering for the Protection of Territory from Natural Risks - Roma Tre University, Department of Engineering – 72 hours, 9 CFU (Nov. 2017-June 2022)

 Assistant supervisor of 15 MSc Theses at the Department of Civil Engineering, Computer Science and Aeronautical Technologies, Roma Tre
- Supervisor of 2 M1 Theses of ENS Paris-Saclay's Students: R. Pelenc "Automation in image segmentation for cultural heritage", F. Alber -"Investigation on masonry discontinuities using DEM: the vulnerability assessment of the Casale della Cervelletta (Apr.-Jul. 2023)
- Invited Young Teacher at the International Summer School on Historic Masonry Structures 90 hours https://www.himass.org (2021-Present)
- Member of the Organizing Committee of the International Project Week (IPW) European Programme (May 2018-Present). Learning on how civil engineering is performed in European countries; Creation of networks among International engineering students; Visits of Building sites. Member Universities: Universitie Claude Bernard Lyon 1, Frankfurt Univ. of Applied Sciences, Edinburgh Napier Univ., Technical University of Denmark, Hogeschool van Amsterdam Univ., Latvia University of Agriculture - Institute of Education, Roma Tre University, Cégep de Trois-Rivières Univ.

PERSONAL SKILLS AND COMPETENCES

Language skills

- Italian mother tongue
- English reading: fluent, writing: fluent, speaking: fluent
- French reading: fluent, writing: good, speaking: fluent

Computer skills

- OS: Windows
- Daily use of all the SWs of MS-OFFICE
- Other SWs: AutoCAD, Recap Pro, Cloud Compare, SAP2000, UDEC, MathCad, Agisoft Metashape
- Programming languages: Matlab, Mathematica

Other skills

- Sports: Futsal (agonistic level), tennis and padel
- Hobbies: Staying with friends, travelling, fishing, aquariums, music and drones

Licence(s)

- Driving licence B; Nautical license within 12M
- RPA-drone Pilot licence A1/A3 (Non-critical operations)
- Bridge inspector Level 1 and 2 (RINA certification)
- Worker performing work at height (without ropes) and use of category III PPE

PUBLICATIONS AND WORKS

Overview

- International Journal papers: 14 (almost all peer-reviewed and Scopus indexed); Conference papers: 16 (almost all peer-reviewed and Scopus indexed); Other documents: 1 design guideline, 1 contribution to a volume, 1 PhD Thesis.
- Citations: 222 (source: Scopus, as at 9 March 2024)
- Citations/publications: 9.3 (source: Scopus, as at 9 March 2024)
- H-index: 7 (source: Scopus, as at 9 March 2024)
- Total I-Factor: 40.6 (at: 9 March 2024)
- I-Factor/publications: 5.1 (at: 9 March 2024)

Papers

- Meriggi P., Montabert A., Alber F., Giry C., de Felice G., 2024, Distinct Element Modelling of ancient masonry seismic behaviour: discretisation and interface impact. 18th World Conferenced on Earthquake Engineering – WCEE 2024, 30th June - 5th July, Milan, Italy. Accepted for upcoming publication.
- Pallante L., Meriggi P., D'Amico F., Gagliardi V., Napolitano A., Paolacci F., Quinci G., Lorello M., de Felice G., 2024, An Integrated Data-Driven System for Digital Bridge Management, Buildings, 14(1), 253. https://doi.org/10.3390/buildings14010253.
- Meriggi P., Fares S., Fugger R., Marfia S., Nerilli F., Sacco E., de Felice G., 2023, Shear mechanisms in Fabric-Reinforced Cementitious Matrix Overlays: Experimental and Numerical Investigation, Journal of Composites for Construction, 27(4), 04023032. https://doi.org/10.1061/JCCOF2.CCENG-4115.
- Sacco G.L.S., Spiaggiari C., Rodriguez F., Kalyoncu O., Meriggi P., Sangirardi M., 2023, Massive Roman arched structures: a combined approach of advanced geometric survey and graphic static for their safety assessment, Structural 247. ISSN 2282-3794. DOI 10.12917/STRU247.21. Bianchini Ciampoli L., Santarelli R., Meriggi P., Manalo J.R.D., Ten A., Loreti E.M., Benedetto A., 2023, Multisensors for BIM modeling and digital twinning of historical
- buildings: preliminary results on Circus of Maxentius in Rome. Proceedings of SPIE The International Society for Optical Engineering, 2023, 12621, 1262104. https://doi.org/10.1117/12.2677305. de Felice G., Choueri C., Meriggi P., Yanez Chura R., 2023, Integrated digital survey and seismic assessment of churches through Distinct Element S. in Structural
- Modelling: the case study of https://doi.org/10.1016/j.prostr.2023.01.271. Maria Maggiore Tuscania, Procedia Integrity, Paolacci F., Quinci G., Meriggi P., Pallante L., de Felice G., 2023, A regional model for classifying, managing, evaluating, and monitoring the seismic
- safety of bridge structures: the MLAZIO project, Procedia Structural Integrity, 44, 697-704. https://doi.org/10.1016/j.prostr.2023.01.091. Fugger R., Fares S., Meriggi P., Nerilli F., Marfia S., Sacco E., de Felice G., 2023, Experimental investigation of FRCM under shear loading, Procedia Structural Integrity, 44, 2166-2173. https://doi.org/10.1016/j.prostr.2023.01.277.

- Sangirardi M., De Santis S., Altomare V., Giannetto V., Meriggi P., Volpe M., de Felice G., 2023, Dynamic identification of an elevated water tank through digital video processing, Procedia Structural Integrity, 44, 1602-1607. https://doi.org/10.1016/j.prostr.2023.01.205.
- 10. Meriggi P., Caggegi C., Gabor A., de Felice G., 2022, Shear-compression tests on stone masonry walls strengthened with basalt Textile Reinforced Mortar (TRM), Construction and Building Materials, 316:125804. https://doi.org/10.1016/j.conbuildmat.2021.125804.
- 11. Paris V., Damiani N., Sousamli M., Ehrenbach I., Lorello M., Nettis A., Montanino A., Meriggi P., 2022, Traditional Tools and modern technologies for the analysis of masonry structures: the case of the Church of Saint Andrea in Anagni, Structural 241. ISSN 2282-3794. https://doi.org/10.12917/STRU241.12.
- 12. Meriggi P., De Santis S., Fugger R., Yanez Chura R., de Felice G., 2022, Distinct element modelling of the seismic response of historical masonry **ECCOMAS** constructions: insight on the out-of-plane collapse of façades, Proc. 8th congress, Oslo 5-9 https://doi.org/10.23967/eccomas.2022.095.
- 13. De Santis S., Meriggi P., Fares S., de Felice G., 2022, Design relationships for the strengthening of masonry walls with mortar-based composites, Proc. 8th ECCOMAS congress, Oslo 5-9 June. https://doi.org/10.23967/eccomas.2022.095.
- 14. Quinci G., Gagliardi V., Pallante L., Manalo D.R.J., Napolitano A., Bertolini L., Bianchini Ciampoli L., Meriggi P., D'Amico F., Paolacci F., 2022, A Novel Bridge Monitoring System Implementing Ground-based, Structural and Remote Sensing Information into a GIS-based Catalogue, Proc. SPIE 12268, Earth Resources and Environmental
- Remote Sensing/GIS Applications XIII, 122680H (26 October 2022). https://doi.org/10.1117/12.2637913.

 15. De Santis S., Alshawa O., De Canio G., Forliti S., Liberatore D., Meriggi P., Roselli I., Sorrentino L., de Felice G., 2021, Design of Shake Table Tests of Multi-Leaf Masonry Walls Before and After Retrofitting, Proc 12th SAHC 2020, Barcelona, 29-30 Sept and 1 Oct. https://doi.org/10.23967/sahc.2021.075.
- 16. Roscini F., De Santis S., Meriggi P., de Felice G., 2021, Overview of the Mechanical Properties of Steel Reinforced Grout Systems for Structural
- Retrofitting, Proc 12th SAHC 2020, Barcelona, 29-30 Sept and 1 Oct. https://doi.org/10.23967/sahc.2021.183.

 17. Fugger R., Fares S., Meriggi P., Nerilli F., Marfia S., Sacco E., 2021, Testing of fabric reinforced cementitious matrix in shear without substrate, Proc MuRiCo 7, Key Engineering Materials, 916, 105-111. https://doi.org/10.4028/p-xch378.
- 18. Caggegi C., Gabor A., Meriggi P., de Felice G., 2021, Experimental response of rubble stone masonry walls retrofitted with basalt textile reinforced
- mortar under compressive-and-shear load, Proc MuRiCo 7, Key Engineering Materials, 916, 483-490. https://doi.org/10.4028/p-svlf1t.

 19. Meriggi P., De Santis S., Fares S., de Felice G., 2021, Design of the shear strengthening of masonry walls with fabric reinforced cementitious matrix, Construction and Building Materials, 279:122452. https://doi.org/10.1016/j.conbuildmat.2021.122452.
- 20. de Felice G., De Santis S., Meriggi P., An Overview of The Tensile and Bond Behavior of Fabric Reinforced Cementitious Matrix (FRCM) Composites, ACI Symposium, 345, 207-220. ISSN:01932527, ISBN:978-164195133-3.
- 21. Meriggi P., Fares S., Fugger R., Ricci M., 2021, Direct shear tests on fabric reinforced cementitious matrix composites without substrate, Proc 2nd fib Italy YMG Symposium, Rome 18-19 Nov. ISSN: 2617-4820, ISBN: 978-2-940643-13-4.
- 22. Meriggi P., de Felice G., De Santis S., 2020, Design of the out-of-plane strengthening of masonry walls with fabric reinforced cementitious matrix composites, Construction and Building Materials, 240:117946. https://doi.org/10.1016/j.conbuildmat.2019.117946.
- 23. de Felice G., D'Antino T., De Santis S., Meriggi P., Roscini F., 2020, Lessons learned on the tensile and bond behavior of fabric reinforced cementitious matrix (FRCM) composites, Frontiers in Built Environment, 6:5. https://doi.org/10.3389/fbuil.2020.000005.
- De Santis S., Meriggi P., de Felice G., 2020, Durability of steel reinforced grout composites, Proc 17th IB²MaC 2020, Kraków 5-8 July. https://doi.org/10.1201/9781003098508.
- 25. De Santis S., De Canio G., de Felice G., Meriggi P., Roselli I., 2019, Out-of-plane seismic retrofitting of masonry walls with Textile Reinforced Mortar composites, Bulletin of Earthquake Engineering, 17(11), 6265-6300. https://doi.org/10.1007/s10518-019-00701-5.
- 26. Meriggi P., de Felice G., De Santis S., Gobbin F., Mordanova A., Pantò B., 2019, Distinct element modelling of masonry walls under out-of-plane seismic loading, 11th SAHC 2018 S.I., International Journal of Architectural Heritage, 13(7), 1110-1123. https://doi.org/10.1080/15583058.2019.1615152.
- 27. Meriggi P., de Felice G., De Santis S., Morganti M., Roscini F., 2019, Durability of Steel Reinforced Grout systems subjected to freezing-and-thawing
- conditioning, Proc 1st fib Italy YMG Symposium, Parma 15 Oct. ISSN: 2617-4820, ISBN: 978-2-940643-03-5.

 28. De Santis S., de Felice G., Di Noia G.L., Meriggi P., Volpe M., 2019, Shake table tests on a masonry structure retrofitted with composite reinforced mortar, Proc MuRiCo 6, Key Engineering Materials, 817, 342-349. https://doi.org/10.4028/www.scientific.net/KEM.817.342.
- 29. Meriggi P., Pantò B., De Santis S., Mordanova A., de Felice G., 2019, Distinct element modelling of the out-of-plane seismic behaviour of masonry walls, Proc 11th SAHC 2018 RILEM Bookseries, 18, 1364-1371. https://doi.org/10.1007/978-3-319-99441-3_146.
- 30. De Santis S., Bellini A., de Felice G., Mazzotti C., Meriggi P., 2018, Design of the out-of-plane strengthening of masonry walls with Textile Reinforced Mortar composites, Proc 9th CICE 2018, Paris 17-19 July.

Guidelines

31. ACI 549.6R-20: Guide to Design and Construction of Externally Bonded Fabric Reinforced Cementitious Matrix (FRCM) and Steel Reinforced Grout (SRG) Systems for Repair and Strengthening Masonry Structures. Farmington Hills, MI, USA, Nov. 2020. ISBN: 978-1-64195-120-3.

Volumes and other documents

- 32. Meriggi P. Fabric Reinforced Cementitious Matrix systems for the strengthening of masonry: experimental investigation and design rules. PhD Thesis. Roma Tre University, April 2021.
- 33. ACI-IC and Federbeton: Innovation in Concrete Structures and Cementitious Materials 2020. Editors Proff. L. Coppola and P. Gambarova. ISBN: 9788894364538.

I authorize the use of my personal data (DL 196/2003: "Code concerning the protection of personal data"). Aware that false statements are punishable under the Criminal Code and the special laws on the subject, I declare that the present document constitutes declaration in lieu of certification and affidavit (DPR n.445/2000 art. 19,46,47).

Rome, 9 March 2024 Petr Muy!