Pietro Meriggi

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BIO

Pietro Meriggi is an Assistant Professor (RTD/A researcher) in structural Engineering (SSD ICAR09, Tecnica delle Costruzioni – Building Technology) at the Department of Civil, Computer Science and Aeronautical Technologies Engineering of Roma Tre University. He is a member of the Structures Research Group and lecturer for the MSc Course of Sustainable Structural Design and Retrofitting.

Born in 1992, he got his BSc in 2014, his MSc in 2017, and his PhD in Civil Engineering in 2021 at Roma Tre University. During the PhD he was a Visiting PhD Student at Laboratoire des Matériaux Composites pour la Construction (LMC2) – Université Claude Bernard Lyon 1, Lyon, France (November 2019), and at IFSTTAR – Université Gustave Eiffel – Laboratoire Navier, Champs sur Marne (Paris), France (January – March 2020). Before getting his current position, he was a postdoctoral research assistant at Roma Tre University (2021-2022).
Pietro's scientific field of interest is the analysis, monitoring and preservation of existing and historical buildings, with a particular focus in the conservation of cultural heritage. Laboratory and field testing of both traditional and innovative materials and of full-scale masonry structural members, analytical and numerical (discrete element modelling – DEM) analysis of the static and seismic behaviour of masonry constructions, development and design of composite systems for structural strengthening (FRCM, CRM), non-destructive surveying and monitoring of existing structures with innovative digital systems (digital photogrammetry and image/video processing techniques), are the main activities carried out by Pietro in his research work.

On these topics, Pietro was/is involved in research projects and consulting activities, and is author of 33 scientific publications including papers in International Journals, Conference proceedings, a guideline and a contribution to a volume on his PhD Thesis, which was awarded as best doctoral thesis of the three-year period 2018-2020 in "Innovation in Concrete Structures and Cementitious Materials (4th edition)" by Federbeton - ACI Italy Chapter.

He was/is reviewer of International Scientific Journals and research projects (e.g., VINCI 2023 Programme promoted by Université Franco Italienne), invited speaker at the ACI Italy Chapter - Innovation in Concrete Structures and Cementitious Materials 2020 and at the Research Seminar Programme “Concrete and Earthquake Engineering Group” 2021 (University of Sheffield, UK). He is Invited Young Teacher at the International Summer School on Historic Masonry Structures (since 2021) and member of the Organizing Committee of the International Project Week (IPW) European Programme (since 2018). He has been co-supervisor of about 20 MSc Theses at Roma Tre University and of 2 M1 Theses of ENS Paris-Saclay’s Students.

Pietro has recently been involved in International Technical Committees, including the RILEM TC 250-CSM “Composites for sustainable strengthening of masonry” and the ACI 549 0L – RILEM TC 250 CSM Liaison Subcommittee “Design and Construction of Externally Bonded Fabric Reinforced Cementitious Matrix (FRCM) Systems for Repair and Strengthening Masonry Structures”.

More info at *https://www.romatrestrutture.eu/people/pietro-meriggi/*

Bibliography

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.

Metrics

- H-index: 7
- Citations: 223
- Citations/publications: *9.3 (source: Scopus, as at 28 March 2024)*
- Total I-Factor: 40.6
- I-Factor/publications: 5.1 (at: *28 March 2024)*

List of publications

1. 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.*
2. 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.
3. 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.
4. 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.
5. 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.
6. de Felice G., Choueri C., Meriggi P., Yanez Chura R., 2023, Integrated digital survey and seismic assessment of churches through Distinct Element Modelling: the case study of S. Maria Maggiore in Tuscania, Procedia Structural Integrity, 44, 2122-2127. https://doi.org/10.1016/j.prostr.2023.01.271.
7. 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.
8. 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.
9. 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 constructions: insight on the out-of-plane collapse of façades, Proc. 8th ECCOMAS congress, Oslo 5-9 June. 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.2020.00005.
24. 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.
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.
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, 28 March 2024

Pietro Meriggi