

UNIVERSITÀ DEGLI STUDI DELL'AQUILA
Prof. Angelo Aloisio
Curriculum scientifico

(Aggiornato il 2024/08/02)

INFORMAZIONI PERSONALI

- Nome e Cognome: Angelo Aloisio
- Indirizzo: Via Giovanni Gronchi 18, 67100 L'Aquila (Laboratorio di Dinamica presso ex-Felix)
- email: angelo.aloisio1@univaq.it
- Orcid: <https://orcid.org/0000-0002-6190-0139>
- Google Scholar: <https://scholar.google.com/citations?user=lvAURRYAAAAJ&hl=it&oi=ao>
- Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57205733998>

FORMAZIONE

- 2021. Dottorato di Ricerca Ingegneria Civile, Edile-Architettura ed Ambientale conseguito presso il Dipartimento di Ingegneria Civile, Edile-Architettura ed Ambientale, dell'Università degli Studi dell'Aquila, Italia.
- 2017. Laurea Magistrale in Ingegneria Civile, conseguita con lode presso l'Università degli Studi dell'Aquila, 24/10/2017.
- 2012. Diploma di Maturità Classica, Liceo-Ginnasio Statale Domenico Cotugno in L'Aquila, con votazione 100/100 con lode.

POSIZIONE ATTUALE

- Dal 2021 ad oggi: Assegnista di ricerca presso il Dipartimento di Ingegneria Civile, Architettura e Ambientale, Università degli Studi dell'Aquila, Italia.
- 2023 Ha ottenuto la Abilitazione Scientifica Nazionale come professore di seconda fascia (professore associato) in Tecnica delle Costruzioni.

POSIZIONI PRECEDENTI

- 14/10/2022-25/11/2022 Borsa di ricerca post-dottorato concessa dalla Northern British Columbia University (Canada). Tema: "Indagini analitiche e numeriche su connettori metallici per strutture in legno".
- 13/09/2021-29/10/2021 Borsa di ricerca post-dottorato concessa dalla Northern British Columbia University (Canada). Tema: "Indagini analitiche e numeriche su connettori metallici per strutture in legno".
- 15/10/2021-15/12/2021 Borsa di ricerca post-dottorato concessa dalla Norwegian University of Life Sciences (Norvegia). Tema: "Supporto all'attività sperimentale e modellazione numerica nel progetto H2020 Esafe".

PREMI E RICONOSCIMENTI

- 2024. Selezionato dall'Editor in chief del Journal of Structural Engineering come ASCE (American Society of Civil Engineering) Outstanding Reviewer 2023.
- Medaglia al merito donata dall'Ambasciatore Americano in Italia John R. Philips. L'Aquila, 5 aprile 2016.
- Vincitore del Mediterranean Competition on Latin translation of Sallustius "Certamen Sallustianum". Barcellona, maggio 2011.

ATTIVITÀ EDITORIALI

- Academic Editor per *Advances in Civil Engineering* editato da Wiley.
- Academic Editor per *International Journal of Intelligent Systems* editato da Wiley.
- Topic Editor di *Infrastructures* editato da MDPI.
- Attualmente revisore di diversi giornali internazionali editati da Elsevier, American Society of Civil Engineering, Taylor and Francis, Wiley, MDPI.
- Editor della seguente edizione speciale (2024): "Smart Earthquake Engineering: Machine Learning for Seismic Risk Reduction" editata da Angelo Aloisio, Marco Martino Rosso e Alessandro Contento in *Advances in Civil Engineering* (Hindawi)
https://www.mdpi.com/journal/geosciences/special_issues/civil_SHM
- Editor della seguente edizione speciale in *Frontiers* (2023): "Advances in Modeling of Novel Materials for Civil Engineering Applications", disponibile al seguente link
<https://www.frontiersin.org/research-topics/48917/advances-in-modeling-of-novel-materials-for-civil-engineering-applications>, editato da Matteo Pellicciari, Domenico Scaramozzino e Angelo Aloisio.
- Guest editor della seguente edizione speciale (2023): "Technological and Digital Innovation in Structural Health Monitoring of Civil Structures and Infrastructures" editata da Pier Francesco Giordano, Angelo Aloisio, Marco Civera in *Infrastructures* (MDPI)
https://www.mdpi.com/journal/infrastructures/special_issues/5R94DOIQP3
- Guest editor della seguente edizione speciale (2023): "Resilience and Reinforcement of Timber Structures" editata da Angelo Aloisio, Xiuzhi Zheng, Wenchen Dong in *Infrastructures* (MDPI)
https://www.mdpi.com/journal/infrastructures/special_issues/CJ5054JAKB
- Guest editor della seguente edizione speciale (2021): "Civil Structural Health Monitoring" editata da Angelo Aloisio, Said Quqa, Pierfrancesco Giordano, Luke J. Prendergast in *Geosciences* (MDPI)
https://www.mdpi.com/journal/geosciences/special_issues/civil_SHM

PRINCIPALI PUBBLICAZIONI SU RIVISTE INTERNAZIONALI

1. Cucuzza, R., Aloisio, A., Movahedi Rad, M., Domaneschi, M. (2024). Constructability-based Design Approach for Steel Structures: From Truss Beams to Real-world Inspired Industrial Buildings. *Automation in Construction*. Doi:
2. Contento, A., Aloisio, A., Xue, J., He, J., Briseghella, B. (2024). Ultra-High Performance Concrete Beam-to-Beam Connections in Continuous Bridges: experimental full-scale tests, FE analyses and design. *Engineering Structures*. Doi:
3. Ussher, E., Aloisio, A., Pasca, D.P., Hansen, S.L., Tomasi, R. (2024). Effect of partition walls on the vibration serviceability of cross-laminated timber floors. *Journal of Building Engineering*. Doi
4. Xue, J., Aloisio, A., Contento, A., Yang, Z., Hu, N., Briseghella, B. (2024). A piece-wise linear model for modelling the tension-stiffening effect in steel-reinforced UHPC composites. *Composites Structures*. Doi:
5. Gregori, A., Bizzarri, L., D'Agostino, C., Aloisio, A., Cirella, R., Alaggio, R. (2024). Sensitivity analysis of modal parameters of an RC joint subject to progressive damage under cyclic loads. *Buildings*. Doi: 10.3390/buildings14051345
6. Kurent, B., Friedman, N., Aloisio, A., Pasca, D.P., Tomasi, R., Brank, B. (2024). Bayesian model updating of eight-storey CLT building using modal data. *Probabilistic Engineering Mechanics*. Doi:
7. Aloisio, A., Rosso, M.M., Di Battista, L., Quaranta, G. (2024). Machine-learning-aided regional post-seismic usability prediction of buildings: 2016-2017 Central Italy earthquakes. *Journal of Building Engineering*. Doi: 10.1016/j.jobe.2024.109526
8. Maiorana, E., Aloisio, A., Fofou, A. B., Briseghella, B. (2024). Structural design and lifecycle analysis of an orthotropic steel deck bascule bridge. *Structures*. Doi: 10.1016/j.istruc.2024.106426
9. Cucuzza, R., Civera, M., Aloisio, A., Ricciardi, G., Domaneschi, M. (2024). Dynamic characterization and FE model updating via metaheuristic algorithm of two confined masonry buildings. *Engineering Structures*. Doi: 10.1016/j.engstruct.2024.117935
10. Sejkot, P., Aloisio, A., Obradovic, V., Iqbal, A. (2024). Experimental, finite element and

analytical characterization of hysteretic response of ductile connections with nailed angle brackets for mass timber structures. *Canadian Journal of Civil Engineering*. Doi:

11. Aloisio, A., Pasca, D.P., Owolabi, D., Loss, C. (2024). Vibration serviceability of hybrid CLT-steel composite floors based on experimental and numerical investigations using random walk models. *Engineering Structures*. Doi: 10.1016/j.engstruct.2024.117600
12. Cucuzza, R., Aloisio, A., Domaneschi, M., Nascimbene, R. (2024). Multimodal Seismic Assessment of Infrastructures Retrofitted with Exoskeletons: Insights from the Foggia Airport Case Study. *Bulletin of Earthquake Engineering*. Doi:
13. Aloisio, A., De Santis, Y., Pasca, D.P., Fragiaco, M., Tomasi, R. (2024). Aleatoric and epistemic uncertainty in the overstrength of CLT-to-CLT screwed connections. *Engineering Structures*. Doi: 10.1016/j.engstruct.2024.117575
14. Valeri, C., Aloisio, A., Quinzi, V., Di Stefano, G., Marzo, G. (2024). Characterizing orthodontic mini-screws in the hard palate of pigs: an experimental and finite-element study. *Heliyon*. Doi: 10.1016/j.heliyon.2024.e24952
15. Cucuzza, R., Aloisio, A., Di Bari, R., Domaneschi, M. (2024). Vulnerability Assessment and Life-Cycle Analysis of an Existing Masonry Arch Bridge. *Engineering Structures*. Doi: 10.1016/j.engstruct.2023.117422
16. Aloisio, A., De Santis, Y., Irti F., Pasca, D.P., Scimia, L., Fragiaco, M. (2024). Machine Learning Predictions of Code-Based Seismic Vulnerability for Reinforced Concrete and Masonry Buildings: Insights from a 300-Building Database. *Engineering Structures*. Doi: 10.1016/j.engstruct.2023.117295
17. De Santis, Y., Aloisio, A., Pasca, D.P., Gavric, I., Fragiaco, M. (2024). Mechanical characterization of soundproofed inclined screws connections. *Construction and Building Materials*. Doi: 10.1016/j.conbuildmat.2023.134641
18. Aloisio, A., Alaggio, R. (2024). Probabilistic Comparative Analysis of Vehicle-Bridge Interaction Models for Predicting Bridge Response under Moving Vehicles. *Journal of Engineering Mechanics*. Doi: 10.1061/JENMDT.EMENG-7437
19. Aloisio, A., Pasca, D. P., De Santis, Y., Fragiaco, M., Ljungdahl, J. (2024). Assessing the deformation energy of timber-to-timber inclined screw connections via computed tomography scan. *European Journal of Wood and Wood Products*. Doi: 10.1007/s00107-023-02028-0
20. Aloisio, A., Lavorato, D., Xue, J., Wu, J. Rasulo, A., Briseghella, B., Nuti, C. (2023). The Role of Overstrength in Welded Joints for Rebar Substitution in Damaged RC Columns. *Construction and Building Materials*. Doi: 10.1016/j.conbuildmat.2023.133952
21. Maiorana, E., Aloisio, A., Briseghella, B. (2023). 2d Models of Steel Beams Under Patch Loading for Buckling Coefficient Assessment. *Advances in Civil Engineering*. Doi: <https://doi.org/10.1155/2023/8854624>
22. Ussher, E., Aloisio, A., Rathy, S. (2023). Effect of lateral resisting systems on the wind-induced serviceability response of tall timber buildings. *Case Studies in Construction Materials*. Doi: 10.1016/j.cscm.2023.e02540
23. Aloisio, A., Rosso, M.M., De Leo, A.M., Fragiaco, M., Basi, M. (2023). Damage classification after the 2009 L'Aquila earthquake using multinomial logistic regression and neural networks. *International Journal of Disaster Risk Reduction* Doi: 10.1016/j.ijdrr.2023.103959
24. Rosso, M.M., Aloisio, A., Marano, G.C., Quaranta, G. (2023). Intelligent Automatic Operational Modal Analysis. *Mechanical Systems and Signal Processing* Doi: 10.1016/j.ymssp.2023.110669
25. Rosso, M.M., Aloisio, A., Cirrincione, G., Marano, G.C. (2023). Subspace features and statistical indicators for neural network-based damage detection. *Structures* Doi: 10.1016/j.istruc.2023.06.123
26. Totani, F., Aloisio, A. (2023). Probabilistic shear wave velocity model based on downhole test database for Apennine flysch formations. *Soil Dynamics and Earthquake Engineering* Doi: 10.1016/j.soildyn.2023.108132

27. De Santis, Y., Aloisio, A., Pasca D.P., Fragiacomò, M., Dombrowski, F. (2023). Evaluation of the shear size effect in glued laminated timber using a stochastic FE model calibrated on 17000 glue-line tests. *Construction and Building Materials* Doi: 10.1016/j.conbuildmat.2023.132488
28. De Santis, Y., Aloisio, A., Gavric I., Sustersisc, I. (2023). Timber-to-steel inclined screws connections with interlayers: experimental investigation, analytical and finite element modelling. *Engineering Structures* Doi: 10.1016/j.engstruct.2023.116504
29. Aloisio, A., Pasca, D.P., De Santis, Y., Hillberger, T., Giordano P.F., Rosso, M.M., Tomasi, R., Limongelli, M.P., Bedon, C. (2023). Vibration issues in timber structures: a state-of-the-art review. *Journal of Building Engineering* Doi: 10.1016/j.jobe.2023.107098
30. Rosso, M.M., Aloisio, A., Randazzo, V., Cirricincione, G., & Marano, G.C. (2023). Comparative deep learning studies for indirect tunnels monitoring with and without Fourier pre-processing. *Integrated Computer-Aided Engineering* Doi: 10.3233/ICA-230709
31. Cucuzza, R., Aloisio, A., Accornero, F., Marinelli, A., Bassoli, E. & Marano, G.C. (2023). Size-scale effects and modelling issues of fibre-reinforced concrete beams. *Construction and Building Materials* Doi: 10.1016/j.conbuildmat.2023.131727
32. Rosso, M.M., Aloisio, A., Melchiorre, J., Huo, F. & Marano, G.C. (2023). Noise effects analysis on subspace-based damage detection with neural networks. *Structures* Doi: 10.1016/j.istruc.2023.05.024
33. Sirotti, S., Aloisio, A., Pellicciari, M., & Briseghella, B. (2023). Empirical formulation for the estimate of the equivalent viscous damping of infilled RC frames. *Engineering Structures* Doi: 10.1016/j.engstruct.2023.116196
34. Ali Khan, N., Aloisio, A., Monti, G., Nuti, C., & Briseghella, B. (2023). Experimental characterization and empirical strength prediction of Pakistani brick masonry walls. *Journal of Building Engineering* Doi: 10.1016/j.jobe.2023.106451
35. Aloisio, A., De Santis, Y., Pellicciari, M., Rosso, M.M., Fragiacomò, M. & Tomasi, R. (2023). Buckling capacity model for timber screws loaded in compression: experimental, analytical and FE investigations. *Construction and Building Materials* Doi: 10.1016/j.conbuildmat.2023.131225
36. Simoncelli, M, Aloisio, A., Zucca, M., Venturi, G., & Alaggio, R. (2023). Intensity and location of corrosion on the reliability of a steel bridge. *Journal of Constructional Steel Research* Doi: 10.1016/j.jcsr.2023.107937
37. De Santis, Y., Pasca, D.P., Aloisio, A., Stenstad, A., & Mahnert, K. (2023). Experimental, analytical and numerical investigation on the capacity of composite glulam beams with holes. *Engineering Structures* Doi: 10.1016/j.engstruct.2023.115995
38. Aloisio, A., Pasca, D.P., Rosso, M.M., & Briseghella, B. (2023). The role of cable forces in the model updating of a curved cable-stayed bridge. *Journal of Bridge Engineering* Doi: 10.1061/JBENF2.BEENG-6168
39. Marano, G.C., Rosso, M.M., Aloisio, A., & Cirrincione, G. (2023). Generative adversarial networks review in earthquake-related engineering fields. *Bulletin of Earthquake Engineering* Doi: 10.1007/s10518-023-01645-7
40. Aloisio, A., Contento, A., Alaggio, R., & Quaranta, G. (2023). Physics-based models, surrogate models and experimental assessment of the vehicle-bridge interaction in braking. *Mechanical Systems and Signal Processing* Doi: 10.1016/j.ymssp.2023.110276
41. Aloisio, A., Rosso, M.M., Fragiacomò, M., & Alaggio, R. (2023). Fragility estimate of railway bridges due to concrete fatigue. *Structures* Doi: 10.1007/s00107-022-01918-z
42. Aloisio, A., Ussher, E., Fragiacomò, M., & Tomasi, R. (2023). Capacity models for timber under compression perpendicular to grain with screw reinforcement. *European Journal of Wood and Wood Products* Doi: 10.1007/s00107-022-01918-z
43. Aloisio, A., Boggian, F., Østraat Sævareid, H., Bjørkedal, J., & Tomasi, R. (2023). Analysis and enhancement of the new Eurocode 5 formulations for the lateral elastic deformation of LTF and CLT

walls. Structures Doi: 10.1016/j.istruc.2022.11.129

44. Aloisio, A., Rosso M.M., Huang, D., Iqbal, A., Fragiaco, M., & Pei, S. (2023). Nonlinear Analytical Modeling of Mass-Timber Buildings with Post-Tensioned Rocking Walls. Bulletin of Earthquake Engineering Doi: 10.1007/s10518-022-01553-2

45. Rosso, M.M., Asso, R., Aloisio, A., Di Benedetto, M., Cucuzza, R. & Greco, R. (2023). Corrosion effects on the capacity and ductility of concrete half-joint bridges. Construction and Building Materials Doi: 10.1016/j.conbuildmat.2022.129555

46. Tomasi, R., Aloisio, A., Eldbjørg Aaraas, H., Ryen Thunberg, K., & Ussher, E. (2023). Experimental investigation on the effect of screw reinforcement on the compression perpendicular to the grain of timber members. Engineering Structures Doi: 10.1016/j.engstruct.2022.115163

47. Aloisio, A., Contento, A., Boggian, F., & Tomasi, R. (2023). Probabilistic friction model for aluminium-steel Asymmetric Friction Connections (AFC). Engineering Structures Doi: 10.1016/j.engstruct.2022.115159

48. Aloisio, A., Pellicciari, M., Xue, J., Fragiaco, M., & Briseghella, B. (2023). Effect of pre-hole filled with high-damping material on the inelastic response spectrum of Integral Abutment Bridges. Journal of Earthquake Engineering Doi: 10.1080/13632469.2022.2136790

49. Sirotti, S., Pellicciari, M., Aloisio, A., & Tarantino, A.M. (2023). Analytical pressure-deflection curves for the inflation of pre-stretched circular membranes. European Journal of Mechanics/A Solids. Doi: 10.1016/j.euromechsol.2022.104831

50. Rosso, M.M., Marasco, G., Aiello, S., Aloisio, A., Chiaia, B. & Marano, G.C. (2022). Convolutional networks and transformers for intelligent road tunnel investigations. Computer and Structures. Doi: 10.1016/j.compstruc.2022.106918

51. Fu, R., Briseghella, J., Xue, J., Aloisio, A., Lin, Y. & Nuti, C. (2022). Experimental and finite element analyses of laterally loaded RC piles with pre-hole filled by various filling materials in IABs. Engineering Structures Doi: 10.1016/j.engstruct.2022.114991

52. Boggian, F., Aloisio, A., & Tomasi, R. (2022). Experimental and analytical study of Friction Connection for seismic retrofit with CLT panels. Earthquake Engineering & Structural Dynamics Doi: 10.1002/eqe.3724

53. Aloisio, A., Rosso, M. M., & Alaggio, R. (2022). Experimental and analytical investigation of the effect of ballasted track on the dynamic response of railway bridges under moving loads. Journal of Bridge Engineering Doi: 10.1061/(ASCE)BE.1943-5592.0001934

54. Cucuzza, R., Devillanova G., Aloisio A., Rosso, M. M., & Marano, G.C. (2022). Analytical solution for piles' lateral deformations: the nonlinear stiffness case. International Journal of Mechanical Sciences Doi: 10.1016/j.ijmecsci.2022.107505

55. Pasca, D. P., Aloisio, A., Rosso, M. M., & Sotiropoulos, S. (2022). PyOMA and PyOMA_GUI: A Python module and software for Operational Modal Analysis. Software X, Doi: 10.1016/j.softx.2022.101216

56. Aloisio, A., Contento, A., Xue, J., Fu, R., Fragiaco, M., Briseghella, B. (2022). Probabilistic formulation for the seismic demand reduction of piles with damping pre-hole. Bulletin of Earthquake Engineering Doi: 10.1007/s10518-022-01497-7

57. Contento, A., Aloisio, A., Xue, J., Quaranta, G., Briseghella, B., Gardoni, P. (2022). Probabilistic axial capacity model for concrete-filled steel tubes accounting for load eccentricity and debonding. Engineering Structures Doi: 10.1016/j.engstruct.2022.114730

58. Aloisio, A., Contento, A., Alaggio, R., Briseghella, B., & Fragiaco, M. (2022). Probabilistic assessment of a Light-Timber Frame shear wall with variable pinching under repeated earthquakes. Journal of Structural Engineering Doi: 10.1061/(ASCE)ST.1943-541X.0003464

59. Pellicciari, M., Sirotti, S., Aloisio, A., & Tarantino, A. M. (2022). Analytical, numerical and experimental study of the finite inflation of circular membranes. International Journal of Mechanical Sciences Doi: 10.1016/j.ijmecsci.2022.107383

60. Aloisio, A., Rosso, M. M., Iqbal, A., & Fragiocomo, M. (2022). Hysteresis modeling of timber-based structural systems using a combined data and model-driven. *Computers and Structures* Doi: 10.1016/j.compstruc.2022.106830
61. Ussher, E., Tomasi, R., Aloisio, A., Dahle Gurholt, C. U., Næss Mikalsen, J. (2022). Effect of the construction features on the dynamic performance of mid-rise CLT platform type buildings. *Wood Material Science & Engineering*. Doi: 10.1080/17480272.2022.2078223
62. Rosso, M. M., Cucuzza, R., Aloisio, A., Melchiorre, J., Lo Giudice, M., & Marano, G. C. (2022). Size and shape optimization of a guyed mast structure under wind, ice and seismic loading. *Applied Sciences*, Doi: 10.3390/app12104875
63. De Santis, Y., Aloisio, A., Sciomenta, M., & Fragiocomo, M. (2022). Capacity model of CLT walls with openings and timber plasticization. *Engineering Structures* Doi: 10.1016/j.engstruct.2022.114411
64. Rosso, M. M., Cucuzza, R., Aloisio, A., & Marano, G. C. (2022). Enhanced multi-strategy Particle Swarm Optimization for constrained problems with an Evolutionary-Strategies-based unfeasible local search operator. *Applied Sciences*, Doi: 10.3390/app12052285
65. Valeri, C., Aloisio, A., Mummolo, S., & Quinzi, V. (2022). Performance of rigid and soft transfer templates using viscous and fluid resin-based composites in the attachment bonding process of clear aligners. *International Journal of Dentistry*, Doi: 10.1155/2022/1637594
66. Aloisio, A., Pellicciari, M., Bergami, A. V., Alaggio, R., Briseghella, B. & Fragiocomo, M. (2022). Effect of pinching on structural resilience: performance of reinforced concrete and timber structures under repeated cycles. *Structure and Infrastructure Engineering*, Doi: 10.1080/15732479.2022.2053551
67. Aloisio, A., Pellicciari, M., Sirotti, S., Boggian F., Tomasi, R. (2022). Optimization of the structural coupling between RC frames, CLT shear walls and asymmetric friction connections. *Bulletin of Earthquake Engineering*, Doi: 10.1007/s10518-022-01337-8
68. Aloisio, A., Pasca, D. P., Di Battista, L., Rosso, M. M., Cucuzza, R., Marano, G. C., Alaggio, R. (2022). Indirect assessment of concrete resistance from FE model updating and Young's modulus estimation of a multi-span PSC viaduct: experimental tests and validation. *Structures*, Doi: 10.1016/j.istruc.2022.01.045
69. Aloisio, A., Boggian, F., Tomasi, R. (2022). Design of a novel seismic retrofitting system for RC structures based on asymmetric friction connections and CLT panels. *Engineering Structures*, Doi: 10.1016/j.engstruct.2021.113807
70. Aloisio, A., Cirella, R., Antonacci, E., & Alaggio, R. (2022). Hypothesis on the decrement of the first natural frequencies of the Santa Maria di Collemaggio basilica from three years monitoring: the role of the CLT roof. *International Journal of Architectural Heritage*, Doi: 10.1080/15583058.2021.2001115
71. Boggian, F., Tardo, C., Aloisio, A., Marino, E. M., & Tomasi, R. (2022). Experimental cyclic response of a novel friction connection for seismic retrofitting of RC buildings with CLT panels. *Journal of Structural Engineering*, Doi: 10.1061/(ASCE) ST.1943-541X.0003313
72. Pellicciari, M., Pasca, D., Aloisio, A., & Tarantino, A. M. (2022). Size effect in single layer graphene sheets and transition from molecular mechanics to continuum theory. *International Journal of Mechanical Sciences*, Doi: 10.1016/j.ijmecsci.2021.106895
73. Briseghella, B., Fa, G., Aloisio, A., Pasca, D., He, L., Fenu, L. & Gentile, C. (2021). Dynamic characteristics of a curved steel-concrete composite cable-stayed bridge and effects of different design choices. *Structures*, Doi: 10.1016/j.istruc.2021.10.060
74. He, L., Castoro, C., Aloisio, A., Zhang, Z., Marano, G. C., Gregori, A., Deng, C. & Briseghella, B. (2021). Dynamic assessment, FE modelling and parametric updating of a butterfly-arch stress-ribbon pedestrian bridge. *Structure and Infrastructure Engineering*, Doi: 10.1080/15732479.2021.1995444
75. Capanna, I., Cirella, R., Aloisio, A., Di Fabio, F., & Fragiocomo, M. (2021). Investigation of the dynamic behaviour of a low-rise masonry building through Operational Modal Analysis and non-linear

numerical simulations. Buildings, Doi: 10.3390/buildings11100471

76. Aloisio, A., Pellicciari, M., Alaggio, R., Nuti, C., Fragiaco, M., Briseghella, B. (2021). Structural robustness of an RC pier under repeated earthquakes. Bridge Engineering (Proceedings of the ICE), Doi: 10.1680/jbren.21.00012
77. Xue, J., Aloisio, A., Lin, Y., Fragiaco, M., Briseghella, B. (2021). Optimum design of piles with pre-hole filled with high-damping material: experimental tests and analytical modeling. Soil Dynamics and earthquake Engineering, Doi:10.1016/j.soildyn.2021.106995
78. Aloisio, A., Alaggio R. (2021). Experimental estimation of the elastic modulus of concrete girders from drive-by inspections with Force-Balance accelerometers. Shock and Vibrations, Doi: 10.1155/2021/1617526
79. Pasca, P. D., Aloisio, A., Fragiaco, M., Tomasi, R. (2021). Dynamic characterization of light timber floors sub-assemblies: sensitivity analysis and modelling issues. Journal of Structural Engineering, Doi: 10.1061/(ASCE)ST.1943-541X.0003179
80. Aloisio, A. (2021). Aspects of Vibration-Based Methods for the Prestressing Estimate in Concrete Beams with Internal Bonded or Unbonded Tendons. Infrastructures, Doi: doi.org/10.3390/infrastructures6060083
81. Aloisio, A., Totani, F., Alaggio, R., Totani, G. (2021). Dispersion curves of transverse waves propagating in multi-layered soils from experimental tests in a 100m deep borehole. Geosciences, Doi: 10.3390/geosciences11050207
82. Aloisio, A. & Fragiaco, M. (2021). Assessment of the Seismic Response of CLT Shear Walls Using the EEGBW, a Bouc–Wen Class Predictive Model. Infrastructures, Doi: 10.3390/infrastructures6040055
83. Capanna, I., Cirella, R., Aloisio, A., Alaggio, R., Di Fabio, F., & Fragiaco, M. (2021). Operational Modal Analysis, Model Update and Fragility Curves Estimation, through Truncated Incremental Dynamic Analysis, of a Masonry Belfry. Buildings, Doi: 10.3390/buildings11030120
84. Aloisio, A., Boggian, F., Tomasi, R., Fragiaco, M. (2021). Reliability-based assessment of CLT and LTF shear walls under in plane seismic loading using a modified Bouc-Wen hysteresis model, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering Doi: 10.1061/(ASCE)JRES.1943-541X.0000083
85. Aloisio, A., Boggian, F., Tomasi, R., Fragiaco, M. (2021) The role of the hold-down in the capacity model of CLT and LTF shear walls based on the experimental lateral response. Construction and Building Materials Doi: 10.1016/j.conbuildmat.2021.123046
86. Aloisio, A., Sejkot, P., Iqbal, A., Fragiaco, M. (2021). An empirical transcendental hysteresis model for structural system with pinching and degradation. Earthquake Engineering and Structural Dynamics, Doi: 10.1002/eqe.3442
87. Aloisio, A., Totani, F., Totani, G. (2021). Experimental dispersion curves of non-penetrable soils from direct measurements using the seismic dilatometer (SDMT). Soil Dynamics and Earthquake Engineering, Doi: 10.1016/j.soildyn.2021.106616
88. Aloisio, A., Alaggio, R., Fragiaco, M. (2021). Equivalent viscous damping of Cross-Laminated Timber Structural Archetypes. Journal of Structural Engineering, Doi:10.1061/(ASCE)ST.1943-541X.0002947
89. Capanna, I., Aloisio, A., Di Fabio, F., Fragiaco, M. (2021). Sensitivity assessment of the seismic response of a masonry palace via non-linear static analysis: a Case Study in L'Aquila (Italy). Infrastructures, Doi: 10.3390/infrastructures6010008
90. Aloisio, A., Fragiaco, M. (2021). Reliability-based overstrength factors of Cross-Laminated timber shear walls for seismic design. Engineering Structures, Doi: 10.1016/j.engstruct.2020.111547.
91. Pagliaro, S., Aloisio, A., Alaggio, R., Di Egidio A. (2020). Rigid block coupled with a 2 d.o.f. system: Numerical and experimental investigation. Coupled Systems Mechanics, Vol. 9, No. 6 (2020) 539-562 Doi: <https://doi.org/10.12989/csm.2020.9.6.539>.
92. Aloisio, A., De Angelo, M., Alaggio, R., D'Ovidio, G. (2020). Dynamic identification of HTS

maglev module for suspended vehicle by using a single degree-of-freedom Generalized Bouc-Wen hysteresis model. *Journal of Superconductivity and Novel Magnetism*, Doi: 10.1007/s10948-020-05745-2

93. Aloisio, A., Di Pasquale, A., Alaggio, R., Fragiaco, M. (2020). Assessment of seismic retrofitting interventions of a masonry palace using Operational Modal Analysis. *International Journal of Architectural Heritage*, Doi: 10.1080/15583058.2020.1836531.
94. Alaggio, R., Aloisio, A., Antonacci, E., Cirella, R. (2020). Two-years static and dynamic monitoring of the Santa Maria di Collemaggio basilica. *Construction and Building Materials*, Doi: 10.1016/j.conbuildmat.2020.121069.
95. Aloisio, A., Alaggio, R., & Fragiaco, M. (2020). Bending stiffness identification of simply-supported girders using an instrumented vehicle: full scale tests, sensitivity analysis and discussion. *Journal of Bridge Engineering*, Doi: 10.1061/(ASCE)BE.1943-5592.0001654.
96. Aloisio, A., Antonacci, E., Fragiaco, M., & Alaggio, R. (2020). The recorded seismic response of the Santa Maria di Collemaggio basilica to low-intensity earthquakes. *International Journal of Architectural Heritage*, 1-19, Doi: 10.1080/15583058.2020.1802533
97. Aloisio, A., Alaggio, R., & Fragiaco, M. (2020). Dynamic identification and model updating of full-scale concrete box girders based on the experimental torsional response. *Construction and Building Materials*, 264, 120146. Doi: 10.1016/j.conbuildmat.2020.120146
98. Aloisio, A., Pasca, D. P., Alaggio, R., & Fragiaco, M. (2020). Bayesian estimate of the elastic modulus of concrete box girders from dynamic identification: a statistical framework for the A24 motorway in Italy. *Structure and Infrastructure Engineering*, 1-13 Doi: 10.1080/15732479.2020.1819343.
99. Aloisio, A., Capanna, I., Cirella, R., Alaggio, R., Di Fabio, F., & Fragiaco, M. (2020). Identification and model update of the dynamic properties of the San Silvestro Belfry in L'Aquila and Estimation of Bell's Dynamic Actions. *Applied Sciences*, 10(12), 4289 Doi: 10.3390/app10124289
100. Aloisio, A. (2020). The Timber-Framed (TF) Masonries in L'Aquila: The baraccato Aquilano. *Heritage*, 3(2), 306-317 Doi: 10.3390/heritage3020018.
101. Aloisio, A., Alaggio, R., & Fragiaco, M. (2020). Fragility functions and behavior factors estimation of multi-story cross-laminated timber structures characterized by an energy-dependent hysteretic model. *Earthquake Spectra*, 8755293020936696. Doi: 10.1177/8755293020936696
102. Aloisio, A., Alaggio, R., & Fragiaco, M. (2020). Time-domain identification of the elastic modulus of simply supported box girders under moving loads: Method and full-scale validation. *Engineering Structures*, 215, 110619. Doi: 10.1016/j.engstruct.2020.110619
103. Aloisio, A., Pasca, D., Tomasi, R., & Fragiaco, M. (2020). Dynamic identification and model updating of an eight-storey CLT building. *Engineering Structures*, 213, 110593 Doi: 10.1016/j.engstruct.2020.110593.
104. Antonacci, E., Aloisio, A., Galeota, D., & Alaggio, R. (2020). The S. Maria di Collemaggio basilica: From vulnerability assessment to first results of SHM. *Journal of Architectural Engineering*, 26(3), 05020007. Doi: 10.1061/(ASCE)AE.1943-5568.0000426
105. Aloisio, A., Di Battista, L., Alaggio, R., & Fragiaco, M. (2020). Sensitivity analysis of subspace-based damage indicators under changes in ambient excitation covariance, severity and location of damage. *Engineering Structures*, 208, 110235. Doi: 10.1016/j.engstruct.2020.110235
106. Aloisio, A., Battista, L. D., Alaggio, R., Antonacci, E., & Fragiaco, M. (2020). Assessment of structural interventions using Bayesian updating and subspace-based fault detection methods: the case study of S. Maria di Collemaggio basilica, L'Aquila, Italy. *Structure and Infrastructure Engineering*, 1-15. Doi: 10.1080/15732479.2020.1731559
107. Aloisio, A., Alaggio, R., Köhler, J., & Fragiaco, M. (2020). Extension of generalized bouc-wen hysteresis modeling of wood joints and structural systems. *Journal of Engineering Mechanics*, 146(3), 04020001. Doi: 10.1061/(ASCE)EM.1943-7889.0001722

108. Di Egidio, A., Alaggio, R., Aloisio, A., de Leo, A. M., Contento, A., & Tursini, M. (2019). Analytical and experimental investigation into the effectiveness of a pendulum dynamic absorber to protect rigid blocks from overturning. *International Journal of Non-Linear Mechanics*, 115, 1-10. Doi: 10.1016/j.ijnonlinmec.2019.04.011
109. Aloisio, A., Alaggio, R., & Fragiaco, M. (2019). Dynamic identification of a masonry façade from seismic response data based on an elementary Ordinary Least Squares approach. *Engineering Structures*, 197, 109415. Doi: 10.1016/j.engstruct.2019.109415
110. Aloisio, A., Alaggio, R., & Fragiaco, M. (2019). The architrave a tasselli. *Case Studies in Construction Materials*, 11, e00252. Doi: 10.1016/j.cscm.2019.e00252
111. Aloisio, A., Fragiaco, M., & D'Alò, G. (2019). Traditional TF masonries in the city centre of L'Aquila–The baraccato aquilano. *International Journal of Architectural Heritage*, 1-18. Doi: 10.1080/15583058.2019.162487
112. Aloisio, A., Fragiaco, M., & D'Alò, G. (2019). The 18th-century baraccato of L'Aquila. *International Journal of Architectural Heritage*, 14(6), 870-884. Doi: 10.1080/15583058.2019.1570390