



UNIVERSITÀ DEGLI STUDI DELL'AQUILA

Prof. Marco Vailati

Curriculum scientifico

(Aggiornato il 2021/05/12)

From 2019 to today
Researcher at University of L'Aquila,

2014-2017

Postdoctoral fellow. Research title, "Uncertainties on the assessment of seismic behavior of masonry and reinforced concrete structures".

2013

Postdoctoral fellow through public procedure selecting. Research title, "Effects of Uncertainties on the Assessment of Seismic Behavior of Building Cluster?". Announcement published on 06/02/2013
Modeling of uncertainties in seismic risk assessment, probabilistic assessment of MBC, limit analysis of circular shaped structure under seismic loads
Department of structural and geotechnical Engineering, Sapienza University of Rome

2011

Postdoctoral fellow through public procedure selecting. Research title, "Seismic Vulnerability Assessment of Masonry Building Cluster?". Announcement published on 10/12/2010
Interaction among structural units, stiffness of decks, treatment of intrinsic and epistemic uncertainties
Department of structural and geotechnical Engineering, Sapienza University of Rome

2011

Ph.D. in structural engineering with dissertation of the thesis "Effects of Intrinsic and Epistemic Uncertainties on the Seismic Response of Masonry Building Cluster: Formulation of a non Linear Analytical Procedure and Sensitivity Analysis".

Downloadable at following link: <http://hdl.handle.net/10805/1193>

Research activities in the field of structural engineering: structural reliability, risk analysis, sensitivity analysis, structural modeling, structural strengthening with advanced techniques.
Department of structural and geotechnical Engineering, Sapienza University of Rome

2004

II level University Master Degree (grade: 27/30).

High proficiency in design and achievement of reinforced concrete structures under seismic loads, concerning new construction as well as restoration of existing building.

2003

Civil engineering student (100 credits to the master degree on the total of 300)

In-depth knowledge of principal topics in civil engineering, especially in the field of earthquake engineering: structural mechanics, dynamic of structures, risk and sensitivity analysis, Modeling with software Adina, Sap, Cosmos, Straus. School of engineering, Sapienza University of Rome

MAIN PUBLICATIONS.

MONOGRAPHS

1. Vailati, M., Monti, G., Di Gangi, G. (2018). Earthquake-safe and Energy-Efficient Infill Panels for Modern Buildings. In: Rupakhety R., Ólafsson S. (eds) Earthquake Engineering and Structural Dynamics in Memory of Ragnar Sigbjörnsson. ICESD 2017. Springer book series "Geotechnical, Geological and Earthquake Engineering", DOI 10.1007/978-3-319-62099-2_12. Springer, Switzerland, vol. 44, p. 213-261
2. Vailati, M., Monti, G. (2016). Earthquake-Resistant and Thermo-Insulating Infill Panel with Recycled-Plastic Joints. In: D'Amico S (ed) Earthquakes and their Impact on Society. Springer Natural Hazard, DOI 10.1007/978-3-319-21753-6_16. Springer, Switzerland, p. 417-432
3. Monti, G., Vailati, M., Marnetto, R. (2016). Base Isolation and Translation of a Strategic Building Under a Preservation Order. In: D'Amico S (ed) Earthquakes and their Impact on Society. Springer Natural Hazard, DOI 10.1007/978-3-319-21753-6_16. Springer, Switzerland, p. 433-448.
4. Vailati, M., Massa, L., 2013. Tecniche di calcolo non lineare per la progettazione e l'adeguamento di edifici e ponti in zona sismica secondo le NTC-08. GOING TO REVIEW
5. Marnetto, R., Massa, L., Vailati, M., 2004. Progetto sismico di strutture nuove in cemento armato ai sensi dell'ordinanza n.3274 del 08/05/2003 e successive integrazioni n.3316, Edizioni Kappa, Roma, pp. 1-150, ISBN: 88-7890-554-2

INTERNATIONAL SCIENTIFIC JOURNALS

6. Vailati, M., Monti, G., Bianco, V. (2021). Integrated Solution-Base Isolation and Repositioning-for the Seismic Rehabilitation of a Preserved Strategic Building. *Buildings* **2021** *11*, 164.
<https://doi.org/10.3390/buildings11040164>
7. Bianco, V., Monti, G., Belfiore, N.P. (2021). MULTI-BODY KINEMATICS OF THE DOUBLE CONCAVE CURVED SURFACE SLIDERS (DCCSS): FROM SUPPOSED COMPLIANT SLIDING TO SUSPECTED STICK-SLIP. ASCE Special Issue. IN PRESS
8. Angiolilli, M., Gregori, A., Vailati, M. (2020). Lime-Based Mortar Reinforced by Randomly Oriented Short Fibers for the Retrofitting of the Historical Masonry Structure. *Materials* **2020**, *13*, 3462.

9. Di Gangi, G., Monti, G., Quaranta, G., Vailati, M., Demartino, C. (2020). A simplified analytical procedure for seismic analysis of timber light-frame shear walls. *NED University Journal of Research, Special Issue on First South Asia Conference on Earthquake Engineering (SACEE'19)*, DOI: 10.35453/NEDJR-STMECH-2019-0054. pp. 173-180.

10. Vailati, M., Monti, G., 2012. Strengthening of masonry walls by transverse connection through afrrp rods: experimental tests and analytical models. *NED University Journal of Research, Thematic Issue on Earthquakes*, pp. 61-72.

NATIONAL AND INTERNATIONAL CONFERENCE PROCEEDINGS

11. Di Gangi, G., Monti, G., Quaranta, G., Vailati, M., Demartino, C. (2019). A simplified analytical procedure for seismic analysis of timber light-frame shear walls. *Proceedings of the 1th South Asia Conference on Earthquake Engineering (SACEE'19)*. Karachi, Pakistan, February 21-22

12. Di Gangi, G., Demartino, C., Quaranta, G., Vailati, M., Monti, G. (2018). Timber Shear Walls: Numerical Assessment of the Equivalent Viscous Damping. *Proceedings of 6th International Conference INTEGRITY-RELIABILITY-FAILURE*. July 22-26, Lisbon, Portugal.

13. Vailati, M., Monti, G., Khazna, M.J., Realfonzo, R., De Iuliis. (2016). Probabilistic seismic response analysis of existing masonry structures. *Proceedings of the 16th International Brick and Block Masonry Conference. "Masonry in a World of Challenges"*. June 26-30, Padova, Italy.

14. Vailati, M., Monti, G., Realfonzo, R., Khazna, M.J., De Iuliis, M., Valeri, G. (2015). A simplified approach to evaluate seismic response of masonry structures based on probabilistic analysis. *Proceedings of the 4th International Workshop DISS_15. Dynamic Interaction of Soil and Structure*. November 12-13, Roma, Italy.

15. Vailati, M., Monti, G., Di Gangi, G. (2015). Multi-Performance Innovative Infill Panels. *Proceedings of 2nd ACE Advances in Civil and Infrastructure Engineering, Vietri sul Mare, Italy*, 12-13 June.

16. Vailati, M., Monti, G., Di Gangi, G. (2015). Seismic assessment of Masonry building cluster with a dedicated NLA software. *Proceedings of the 2nd International Symposium on Advances in Civil and Infrastructure Engineering. Vol. I, Vietri sul Mare (SA), Italy*.

17. Monti, G., Vailati, M., Marnetto, R. (2014). Seismic retrofitting of a strategic building through base isolation and translation. *Second European Conference on Earthquake Engineering and Seismology, Istanbul, Turkey, August 25-29*.

18. Vailati, M., Monti, G. (2014). Recycled-plastic joints for earthquake resistant infill panels. *Second European Conference on Earthquake Engineering and Seismology, Istanbul, Turkey, August 25-29*.

19. Vailati, M., Caluisi, A., Monti, G. (2014). Environmentally friendly joints for seismic resistant infill panels. Proceedings AICAP 2014: Structures in the urban environment, Bergamo.
20. Vailati, M., Monti, G. (2014). Lo studio di aggregati edilizi con software di calcolo non lineare dedicato. Atti del Workshop Safe Monuments. Vol. I (in italian), Firenze.
21. Monti, G., Vailati, M., 2013. VENUS: Un programma per l'analisi non lineare semplificata di aggregati edilizi. 15TH convegno ANIDIS 'L'ingegneria sismica in Italia?', Padova, 30 giugno - 4 luglio 2013, vol. 1
22. Monti, G., Vailati, M., Gaetani, A., Paolone, A., 2013. Modelli analitici di capacità per archi di muratura rinforzati soggetti ad azioni sismiche. 15TH convegno ANIDIS 'L'ingegneria sismica in Italia?', Padova, 30 giugno - 4 luglio 2013, vol. 1
23. Monti, G., Vailati, M., Marnetto, R., Ducci, G., Schiavi, C., 2013. Adeguamento sismico di un edificio strategico mediante isolamento alla base e traslazione. 15TH convegno ANIDIS 'L'ingegneria sismica in Italia?', Padova, 30 giugno - 4 luglio 2013, vol. 1
24. Vailati, M., Monti, G., Khazna, M.J., Napoli, A., Realfonzo, R., 2012. Probabilistic Assessment of Masonry Building Clusters. 15TH world conference of earthquake engineering, Lisbon, Portugal, 24-28 september 2012.
25. Vailati, M., Monti, G., 2011. L'analisi di aggregati edilizi con solai rigidi e flessibili. 14TH convegno ANIDIS 'L'ingegneria Sismica in Italia?', Bari, 18-22 settembre 2011, Vol. 1.
26. Menegotto, M., Monti, G., Salvini, S., Vailati, M., 2010. Improvement of transverse connection of masonry walls through AFRP bars. 5TH international conference on frp composites in civil engineering, Beijing, China, 27-29 september 2010, vol. 1.
27. Vailati, M., Menegotto, M., Monti, G., 2010. Solidarizzazione di muri ortogonali tramite barrette di afrp: modelli analitici di capacità e riscontri sperimentali. Sicurezza e conservazione dei beni culturali colpiti da sisma strategie e tecniche di ricostruzione ad un anno dal terremoto abruzzese, Venezia, Università IUAV, 8-9 aprile 2010.
28. Menegotto, M., Monti, G., Salvini, S., Vailati, M., 2009. Solidarizzazione di muri ortogonali tramite barrette di AFRP. Wondermasonry 2009 workshop on design for rehabilitation of masonry structures, Lacco ameno, Ischia, 8-10 ottobre 2009, vol. 1
29. Monti, G., Vailati, M., 2009. Vulnerabilità degli aggregati edilizi con incertezze intrinseche ed epistemiche. Wondermasonry 2009 Workshop on Design for Rehabilitation of Masonry Structures, Lacco Ameno, Ischia, 8-10 Ottobre 2009, vol. 1
30. Monti, G., Vailati, M., 2009. Analisi di vulnerabilità sismica di edifici in aggregato: un caso esempio. 13TH convegno ANIDIS 'L'ingegneria sismica in Italia?', Bologna, 28 giugno - 2 luglio 2009, vol. 1

31. Monti, G., Vailati, M., 2009. Procedura di analisi non lineare statica per la valutazione sismica degli edifici in aggregato. 13TH convegno ANIDIS ?L'ingegneria sismica in Italia?, Bologna, 28 giugno - 2 luglio 2009, vol. 1

SPECIALIST POSTGRADUATE COURSES

2016 - Certified training course on COMSOL Multiphysics concerning Mechanics and fluid dynamics

2009 ? Course on masonry constructions ?Modeling, seismic safety and conservation of ordinary and monumental buildings?

2009 ? Course of ?Seismic Reliability Analysis of structures?

2008 ? Course of ?Random dynamic?

2008 ? Non linear structural analysis

2000 ? 40 hours of the advanced Professional Training Course, at the International Centre for Mechanical Sciences (CISM) of Udine ?Ordinary and pre-cast reinforced concrete structures, design with advanced techniques?

1999 - FEM-STRAUS course at University of Padova, faculty of engineering, ?On the use of the Finite Element Software in linear and nonlinear analysis?

IMPORTANT ROLES IN ACADEMIC ACTIVITIES

2016 - Professor of retrofitting of buildings at Master EuroProject - Sapienza University of Rome - Director Prof. Giorgio Monti

2016 - Ph.D co-tutor, work's title ?A simplified methodology to estimate the seismic reliability of masonry structures affected of high uncertainties?

2015 - Ph.D co-tutor, work's title ?Seismic behavior of masonry buildings: probabilistic assessment by using a simplified procedure?

2013 ? Peer review of ASCE journal, American Society of Structural Engineering

2012 ? Member of the national organizing committee of the 6TH International Conference on FRP Composites in Civil Engineering - CICE 2012

2012 ? M.Sc. degree co-tutor, work's title ?Environmentally friendly joint for seismic resistant infill panels?

2011 ? Teaching. Lessons on masonry structures - II level University Master Degree PEC, design, execution and control of building in seismic area. Fondazione Campus Studi del Mediterraneo, LU.

2011 ? Teaching. Lessons on masonry building cluster - II level University Master Degree, assessment, control and reduction of seismic and environmental risk. Sapienza University of Rome, RM.

2011/12 ? Teaching. Lessons of structural analysis and design ? Master?s degree course, Faculty of Architecture ?Valle Giulia?, RM.

2010/11 ? Teaching. Lessons of structural analysis and design ? Master?s degree course, Faculty of Architecture ?Valle Giulia?, RM.

2011 ?Tutor of master?s degree, title ?Seismic assessment of existing masonry buildings?

2011 ? Co-tutor of Ph.D. thesis, title ? Probabilistic assessment of masonry building clusters?

2011 ?Tutor of master?s degree, title ?Effects of uncertainties on seismic response of masonry building cluster?

2010 ?Tutor of master?s degree, title ?Seismic vulnerability assessment of masonry building cluster

located in Crotone, RC?

2009/10 ? Teaching. Lessons of structural analysis and design ? Master?s degree course in restoration, Faculty of Architecture ?Valle Giulia?, RM.

2009 ?Studies for restoration of historical centre of Paganica, destroyed by earthquake of april 6, 2009, l?Aquila, AQ

2008/09 - Teaching. Lessons of structural analysis and design ? Master?s degree course in restoration, Faculty of Architecture ?Valle Giulia?, RM.

2008/09 ? Teaching. Lessons of structural analysis and design ? Master?s degree course in restoration, Faculty of Architecture ?Valle Giulia?, RM.