

Virginio Quaglini had his MSc degree in Mechanical Engineering in 1995 and his PhD degree in Structural Engineering in 2001.

Current position:

- Associate Professor in Structural Analysis and Design at Politecnico di Milano;
- Scientific Director of the Materials Testing Laboratory of Politecnico di Milano;

He is tenured professor at the School of Architecture, Urban Planning and Construction Engineering and teaches in courses of the PhD Program in Architecture, Built Environment and Construction Engineering at Politecnico di Milano.

Current researches focus on the conceptual design, testing and modeling of base isolation and energy dissipation systems for seismic protection of buildings and structures, and the study of bearings for constructions.

He has been Principal Investigator in research projects funded by the Lombardia Regional Council (Neo.Sismos – Nuova Sicurezza Sismica”; “Sliding pendulum bearings for seismic protection of bridges and structures” and Cariplo Foundation (“Development and characterization of technologically advanced composite sliding material for seismic isolation, to increase safety in buildings and infrastructures”), and Investigator in several projects funded by the Italian Ministry of Research and University (PRIN, Research Projects of National Relevance).

He has been also responsible of the PoliMi research group in three research RELUIS (Network of University Laboratories in Seismic Engineering) projects funded by the Italian Department of Civil Protection.

Prof. Virginio Quaglini is involved in technology transfer, through collaborations with industrial partners and authorship of patents on bridge bearings and seismic isolation devices, and has served as consultant for public bodies (Lombardia Regional Council, analysis and monitoring of bridges and road infrastructures) and private engineering and construction companies.

He has been Third Party Reviewer for bearings and anti-seismic devices for several large scale projects in Italy and abroad, including the assessment of the elastomeric bearings of the Riyadh Metro (2018) and the Dubai Metro Red Line and Green Line viaducts (2009; 2017-2018), the improvement of Dubai Marina Bridges (2013-2014), and the antiseismic bearings of the Third Bosphorus Bridge in Istanbul (2015-2016), and the Third party inspection of tests and manufacturing of Cryostat Support Bearings for ITER project (2016-2017).

He is Italian delegate in technical committees 167 “Structural Bearings” and 340 “Anti-seismic Devices” of CEN (European Center for Standardization), and has taken part to the revision of European standards EN 1337 and EN 15129. In 2009-2011 was Italian delegate to the EOTA Working Group 01.07/2 in charge of the European Technical Approval Guideline on bridge expansion joints. He has served in international scientific conference committees, and reviewer for international journals and for different research foundations worldwide.

Recent Publications:

1. De Domenico, D., Gandelli, E., Quaglini, V. “Effective base isolation combining low-friction curved surface sliders and hysteretic gap dampers” (2020) *Soil Dynamics and Earthquake Engineering*, 130, e-paper 105989.
2. Calabrese, A., Quaglini, V., Strano, S., Terzo, M. “Online estimation of the friction coefficient in sliding isolators” (2020) *Structural Control and Health Monitoring*, accepted for publication.
3. Quaglini, V., Dubini, P., Furinghetti, M., Pavese, A. “Assessment of scale effects in the experimental evaluation of the coefficient of friction of sliding isolators” (2019) *Journal of Earthquake Engineering*, pp- 1-21. <https://doi.org/10.1080/13632469.2019.1687054>.
4. Gandelli, E., Taras, A., Distl, J., Quaglini, V. “Seismic retrofit of hospitals by means of hysteretic braces: influence on acceleration-sensitive non-structural components” (2019) *Frontiers in Built Environment*, 5, paper 100. <https://doi.org/10.3389/fbuil.2019.00100>.

5. Quaglini, V., Gandelli, E., Dubini, P. "Numerical investigation of curved surface sliders under bidirectional orbits" (2019) *Ingegneria Sismica – International Journal of Earthquake Engineering*, XXXVI (2), pp. 118-136.
6. Gandelli, E., Penati, M., Quaglini, V., Lomiento, G., Miglio, E., Benzoni, G.M. "A novel OpenSees element for single curved surface sliding isolators" (2019) *Soil Dynamics and Earthquake Engineering*, 119, pp. 433-453.
7. Furinghetti, M., Pavese, A., Quaglini, V., Dubini, P. "Experimental investigation of the cyclic response of double curved surface sliders subjected to radial and bidirectional sliding motions" (2019) *Soil Dynamics and Earthquake Engineering*, 117, pp. 190-202.
8. Gandelli, E., Quaglini, V. "Effect of the static coefficient of friction of curved surface sliders on the response of an isolated building" (2018) *Journal of Earthquake Engineering*, pp. 1-29. <https://doi.org/10.1080/13632469.2018.1467353>.
9. Gandelli, E., Quaglini, V., Dubini, P., Limongelli, M.P., Capolongo, S. "Seismic isolation retrofit of hospital buildings with focus on non-structural components [Adeguamento sismico di un ospedale mediante isolamento sismico con particolare attenzione agli elementi non strutturali]" (2018) *Ingegneria Sismica – International Journal of Earthquake Engineering*, XXXV (4), pp. 20-56.
10. Quaglini, V., Gandelli, E., Dubini, P., Limongelli, M.P. "Total displacement of curved surface sliders under nonseismic and seismic actions: A parametric study" (2017) *Structural Control and Health Monitoring*, 24 (12), article e2031.
11. Spizzuoco, M., Quaglini, V., Calabrese, A., Serino, G., Zambrano, C. "Study of wire rope devices for improving the re-centering capability of base isolated buildings" (2017) *Structural Control and Health Monitoring*, 24 (6), article e1928.
12. Quaglini, V., Gandelli, E., Dubini, P. "Experimental investigation of the re-centring capability of curved surface sliders" (2017) *Structural Control and Health Monitoring*, 24 (2), article e1870.
13. Quaglini, V., Dubini, P., Gandelli, E. "Effect of friction on the re-centring capability of sliding bearings with curved surfaces" (2017) *International Conference on Advances in Experimental Structural Engineering*, 2017-September, pp. 97-113.
14. Quaglini, V., Dubini, P., Vazzana, G. "Experimental assessment of high damping rubber under combined compression and shear" (2016) *Journal of Engineering Materials and Technology, Transactions of the ASME*, 138 (1), article 011002.
15. Quaglini, V., Bocciarelli, M., Gandelli, E., Dubini, P. "Numerical assessment of frictional heating in sliding bearings for seismic isolation" (2014) *Journal of Earthquake Engineering*, 18 (8), pp. 1198-1216.
16. Raimondi, M.T., Balconi, G., Boschetti, F., Di Metri, A., Azmi Mohammed, S.A., Quaglini, V., Araneo, L., Galv ez, B.G., Lupi, M., Latini, R., Remuzzi, A. "An opto-structural method to estimate the stress-strain field induced by cell contraction on substrates of controlled stiffness in vitro" (2013) *Journal of Applied Biomaterials and Functional Materials*, 11 (3), pp. 143-150.
17. Quaglini, V., "High damping curved surface sliding isolators for bridges" (2012) *Bridge Maintenance, Safety, Management, Resilience and Sustainability - Proceedings of the Sixth International Conference on Bridge Maintenance, Safety and Management*, pp. 3685-3692.
18. Quaglini, V., Dubini, P., Poggi, C. "Experimental assessment of sliding materials for seismic isolation systems" (2012) *Bulletin of Earthquake Engineering*, 10 (2), pp. 717-740.
19. Affatato, S., Bracco, P., Costa, L., Villa, T., Quaglini, V., Toni, A. "In vitro wear performance of standard, crosslinked, and vitamin-E-blended UHMWPE" (2012) *Journal of Biomedical Materials Research - Part A*, 100 A (3), pp. 554-560.
20. Quaglini, V., Dubini, P. "Friction of polymers sliding on smooth surfaces" (2011) *Advances in Tribology*, art. no. 178943.
21. Quaglini, V., Tavecchio, C., Dubini, P., Cuminetti, D., Ferroni, D. "New high endurance sliding material for bridge bearings" (2010) *Bridge Maintenance, Safety, Management and Life-Cycle*

Optimization - Proceedings of the 5th International Conference on Bridge Maintenance, Safety and Management, pp. 3491-3497.

22. Ferroni, D., Quaglini, V. "Thermal stabilization of highly crosslinked UHMWPE: A comparative study between annealed and remelted resins" (2010) *Journal of Applied Biomaterials and Biomechanics*, 8 (2), pp. 82-88.
23. Ferroni, D., Quaglini, V., Dubini, P. "Highly crosslinked polyethylene: A comparative study between two uhmwpes with distinct molecular weight" (2010) *Journal of Mechanics in Medicine and Biology*, 10 (1), pp. 95-111.
24. Quaglini, V., Dubini, P. "High performance materials for pendulum sliding bearings" (2010) *Large Structures and Infrastructures for Environmentally Constrained and Urbanised Areas*, pp. 772-773.
25. Quaglini, V., Tavecchio, C., Dubini, P., Cuminetti, D., Ferroni, D. "Current limits of PTFE in sliding bearings" (2010) *Large Structures and Infrastructures for Environmentally Constrained and Urbanised Areas*, pp. 774-775.
26. Quaglini, V., Dubini, P., Ferroni, D., Poggi, C. "Influence of counterface roughness on friction properties of engineering plastics for bearing applications" (2009) *Materials and Design*, 30 (5), pp. 1650-1658.
27. Quaglini, V., Russa, V.L., Corneo, S. "Nonlinear stress relaxation of trabecular bone" (2009) *Mechanics Research Communications*, 36 (3), pp. 275-283.
28. Quaglini, V., Corazza, C., Poggi, C. "Experimental characterization of orthotropic technical textiles under uniaxial and biaxial loading" (2008) *Composites Part A: Applied Science and Manufacturing*, 39 (8), pp. 1331-1342.

December 2019

Autorizzo il Politecnico di Milano a pubblicare il presente curriculum sul sito WEB di Ateneo, ai fini istituzionali e in ottemperanza al D. Lgs n. 33 del 14 marzo 2013 "Decreto trasparenza" come modificato dal D. Lgs. 97 del 2016

Virginio Quaglini