CURRICULUM VITAE

TITLE AND NAME Prof. Rui Pinho
NATIONALITY Portuguese
CONTACT
Department of Civil Engineering and Architecture
University of Pavia
Via Ferrata 3, 27100 Pavia, Italy
Email: rui.pinho@unipv.it

HIGHER EDUCATION

MEng in Civil Engineering, 1995
University of Porto, Portugal

MSc in Earthquake Engineering and Structural Dynamics, 1996
Imperial College London, UK

PhD in Earthquake Engineering, 2000
Imperial College London, UK

PRESENT APPOINTMENTS

2001 – Earthquake Engineering Academic (currently, Full Professor)
University of Pavia, Italy

2001 – Co-founder and Technical Director
Seismosoft Ltd, Pavia, Italy

2014 – Co-founder and Technical Director
Mosayk Ltd, Pavia, Italy

2014 – Earthquake Engineering and Seismic Risk Consultant
Pavia, Italy

2023 – Vice-President
Eucentre Foundation, Pavia, Italy

PAST APPOINTMENTS

1999 – 2001 Earthquake Engineering Academic (Lecturer)
Imperial College London, UK

2005 – 2009 Senior Researcher
Eucentre Foundation, Pavia, Italy

2009 – 2013 Secretary-General
GEM Foundation, Pavia, Italy

2014 – 2019 Director of Science
Eucentre Foundation, Pavia, Italy

EXPERIENCE OVERVIEW

Author and co-author of 364 scientific publications on a number of earthquake engineering topics (H-index of 57, source: Google Scholar). Guest/keynote speaker at national and international earthquake engineering conferences worldwide, peer reviewer for technical journals and funding agencies, recipient of several awards.

Consultant on a number of seismic risk assessment and earthquake engineering projects for clients such as e.g.:

- NAM (*development of a risk model for natural gas extraction induced seismicity in the Groningen region, Netherlands*)
- OGA (*development of a risk model for hydraulic fracturing induced seismicity in Preston North Road, Lancashire, UK*)
- UNICREDIT (*seismic risk assessment of corporate buildings portfolio*)
- GASPLUS (*evaluation of triggered seismicity potential in the Emilia region, Italy*)
- UNDP-Jordan (*training on seismic assessment and retrofitting of buildings in Jordan*)
- EDF (*review of a seismic hazard model development for France and Northern Italy*)
- NYLIC (*seismic design of a cable-stayed bridge in Guayaquil, Ecuador*)

- Glaxo-Wellcome (*seismic assessment of headquarters in Cairo, Egypt*)

Manager at a number of organisations of academic (ROSE School), research (EUCENTRE Foundation), risk assessment (GEM Foundation), software development (Seismosoft Ltd.) and engineering consultancy (Mosayk Ltd.) nature. Coordinator of a number of national, european and global applied research projects.

MEMBERSHIP PROFESSIONAL BODIES

National Licensed Civil Engineers Association, Portugal, 1996 – to date
Society of Earthquake and Civil Engineering Dynamics, UK, 1996 – to date
European Association for Earthquake Engineering, 2003 – to date
Earthquake Engineering Research Institute, 2008 – to date

HONOURS AND AWARDS

Best Bridge Engineering Paper Award, Journal of Engineering Structures, 2022
Outstanding Paper Award, International Association of Bridge and Structural Engineering (IABSE), 2020
Best International Journal Paper Award, Portuguese Association of Earthquake Engineering, 2016
Best International Journal Paper Award, Portuguese Association of Earthquake Engineering, 2014
EERI Shah's Prize for Innovation in Earthquake Engineering, 2007
Best Paper Award, ISET Journal of Earthquake Engineering, 2000
Short-listed for the 'IStructE Young Researcher Award', UK, 1997
Doctoral Scholarship from the Calouste Gulbenkian Foundation, Portugal, 1997
Research Scholarship from the European Commission, under the framework of the ICONS project, 1997
Distinction award and recognition as top graduate student at the Masters in Earthquake Engineering of Imperial College London, 1996
Top final year student in the specialisation of Analysis and Design of Structures, University of Porto, 1995

KEYNOTE/GUEST LECTURES

Seventh National Conference in Civil Engineering, Amman, Jordan, 2017
Fifth National Conference on Structural Engineering, Lisbon, Portugal, 2014
Twenty Third Colloquium of African Geology, Johannesburg, South Africa, 2011
ENHANS International Workshop on Extreme Natural Hazards and Disaster Risk in Africa, Pretoria, South Africa, 2011
International Research Workshop on Economics of Natural Disasters, Venice, Italy, 2011
ESF Research Conference on Understanding Extreme Geohazards, Sant Feliu de Guixols, Spain, 2011
Integrated Risk Disaster Research Conference, Beijing, China, 2011
Tenth International Conference on Credit Risk Evaluation, Venice, Italy, 2011
Third International Disaster and Risk Conference, Davos, Switzerland, 2010
Twelfth Ministerial Session of the European and Mediterranean Major Hazards Agreement, EUR-OPA, Saint Petersburg, Russian Federation, 2010
AGU Meeting of the Americas, Iguassu, Brazil, 2010
International Disaster and Risk Conference (IDRC), Chengdu, China, 2009
Second Conference of the OECD International Network on the Financial Management of Large-scale Catastrophes, Bangkok, Thailand, 2009
World Forum of Catastrophe Programmes, Taipei, Taiwan, 2009
IUA Catastrophe Modelling, London, UK, 2009
International Conference of Seismology in South-America, Lima, Peru, 2009
International Workshop on Disaster Risk Reduction, Brussels, Belgium, 2009
Second International Conference on Asian Catastrophe Insurance, Beijing, China,

2009

Seventh National Conference on Earthquake Engineering and Seismology, Porto, Portugal, 2007

Sixteenth National Conference on Civil Engineering, Arequipa, Peru, 2007

Twentieth Regional Conference on Earthquake Engineering, Sion, Switzerland, 2001

LANGUAGES

Portuguese: native language

English: fluent (reading, listening, speaking, writing)

Italian: fluent (reading, listening, speaking, writing)

Spanish: fluent (reading); intermediate (listening); basic (speaking, writing)

INTERNATIONAL JOURNAL PUBLICATIONS
(full list of all 364 publications available upon request)

Elnashai A.S., Pinho R. (1998) "Repair and retrofitting of RC walls using selective techniques," Journal of Earthquake Engineering, Vol.2, No.4, pp. 525-568.

Pinho R., Elnashai A.S. (2000) "Dynamic collapse testing of a full-scale four storey RC frame," ISET Journal of Earthquake Engineering, Special Issue on Experimental Techniques, Vol. 37, No. 4, pp. 143-164.

Pinho R. (2000) "Shaking table testing of RC walls," ISET Journal of Earthquake Engineering, Special Issue on Experimental Techniques, Vol. 37, No. 4, pp. 119-142.

Glaister S., Pinho R. (2003) "Development of a simplified deformation-based method for seismic vulnerability assessment," Journal of Earthquake Engineering, Vol. 7, Special Issue 1, pp. 107-140.

Antoniou S., Pinho R. (2004) "Advantages and limitations of adaptive and non adaptive force-based pushover procedures," Journal of Earthquake Engineering, Vol. 8, No 4, pp. 497-522.

Antoniou S., Pinho R. (2004) "Development and verification of a displacement-based adaptive pushover procedure," Journal of Earthquake Engineering, Vol. 8, No. 5, pp. 643-661.

Crowley H., Pinho R., Bommer J.J. (2004) "A probabilistic displacement-based vulnerability assessment procedure for earthquake loss estimation," Bulletin of Earthquake Engineering, Vol. 2, No. 2, pp. 173-219.

Crowley H., Pinho R. (2004) "Period-height relationship for existing European reinforced concrete buildings," Journal of Earthquake Engineering, Vol. 8, Special Issue 1, pp. 93-120.

Bird J.F., Crowley H., Pinho R., Bommer J.J. (2005) "Assessment of building response to liquefaction-induced differential ground deformation," Bulletin of the New Zealand Society for Earthquake Engineering, Vol. 38, No. 4, pp. 215-234.

Crowley H., Bommer J.J., Pinho R., Bird J.F. (2005) "The impact of epistemic uncertainty on an earthquake loss model," Earthquake Engineering and Structural Dynamics. Vol. 34, No. 14, pp. 1653-1685.

Rota M., Pecker A., Bolognini D., Pinho R. (2005) "A methodology for seismic vulnerability of masonry arch bridge walls," Journal of Earthquake Engineering, Vol. 9, Special Issue 2, pp. 331-353.

Bird J.F., Bommer J.J., Crowley H., Pinho R. (2006) "Modelling liquefaction-induced building damage in earthquake loss estimation," Soil Dynamics and Earthquake Engineering, Vol. 26, No. 1, pp. 15-30.

Bommer J.J., Pinho R. (2006) "Adapting earthquake actions in Eurocode 8 for performance-based design," Earthquake Engineering and Structural Dynamics, Vol. 35, No. 1, pp. 39-55.

Calvi G.M., Pinho R., Magenes G., Bommer J.J., Restrepo-Vèlez L.F., Crowley H. (2006) "The development of seismic vulnerability assessment methodologies for variable geographical scales over the past 30 years," ISET Journal of Earthquake Engineering Technology, Vol. 43, No. 3, pp. 75-104.

Casarotti C., Pinho R. (2006) “Seismic response of continuous span bridges through fibre-based finite element analysis,” Journal of Earthquake Engineering and Engineering Vibration, Vol. 5, No. 1, pp. 119-131.

Casarotti C., Pinho R. (2007) “An adaptive capacity spectrum method for assessment of bridges subjected to earthquake action,” Bulletin of Earthquake Engineering, Vol. 5, No. 3, pp. 377-390.

Ceresa P., Petrini L., Pinho R. (2007) “Flexure-shear fibre beam-column elements for modelling frame structures under seismic loading - state of the art,” Journal of Earthquake Engineering, Vol. 11, Special No. 1, pp. 46-88.

Gavridou S., Pinho R., Crowley H., Calvi G.M., Montaldo V., Meletti C., Stucchi M. (2007) “Preliminary study on the impact of the introduction of an updated seismic hazard model for Italy,” Journal of Earthquake Engineering, Vol. 11, Special Issue 1, pp. 89-118.

Grant D.N., Bommer J.J., Pinho R., Calvi G.M., Goretti A., Meroni F. (2007) “A prioritization scheme for seismic intervention in school buildings in Italy,” Earthquake Spectra, Vol. 23, No. 2, pp. 291-314.

Pinho R., Casarotti C., Antoniou S. (2007) “A comparison of single-run pushover analysis techniques for seismic assessment of bridges,” Earthquake Engineering and Structural Dynamics, Vol. 36, No. 10, pp. 1347–1362.

Bal I., Crowley H., Pinho R. (2008) “Displacement-based earthquake loss assessment for an earthquake scenario in Istanbul,” Journal of Earthquake Engineering, Vol. 12, Special Issue 2, pp. 12–22.

Bal I., Crowley H., Pinho R., Gulay F. (2008) “Detailed assessment of structural characteristics of Turkish RC building stock for loss assessment models,” Soil Dynamics and Earthquake Engineering, Vol. 28, No. 10-11, pp. 914–932.

Borzi B., Pinho R., Crowley H. (2008) “Simplified pushover-based vulnerability analysis for large scale assessment of RC buildings,” Engineering Structures, Vol. 30, No. 3, pp. 804-820.

Borzi B., Crowley H., Pinho R. (2008) “Simplified pushover-based earthquake loss assessment (SP-BELA) method for masonry buildings,” International Journal of Architectural Heritage, Vol. 2, No. 4, pp. 353-376.

Colombi M., Borzi B., Crowley H., Onida M., Meroni F., Pinho R. (2008) “Deriving vulnerability curves using Italian earthquake damage data,” Bulletin of Earthquake Engineering, Vol. 6, No. 3, pp. 485-504.

Crowley H., Borzi B., Pinho R., Colombi M., Onida M. (2008) “Comparison of two mechanics-based methods for simplified structural analysis in vulnerability assessment,” Advances in Civil Engineering, Vol. 2008, Issue Q2, pp. 1-19.

Pinho R., Crowley H. (2008), “Using basic principles of mechanics of materials to assess the seismic risk of entire countries,” Environmental Semeiotics, Vol. 1, No. 1, pp. 1-19.

Casarotti C., Monteiro R., Pinho R. (2009) “Verification of spectral reduction factors for seismic assessment of bridges,” Bulletin of New Zealand Society for Earthquake Engineering, Vol. 42, No. 2.

Crowley H., Colombi M., Borzi B., Faravelli M., Onida M., Lopez M., Polli D., Meroni F., Pinho R. (2009) “A comparison of seismic risk maps for Italy,” Bulleting of Earthquake Engineering, Vol. 7, No. 1, 149-180.

Ceresa P., Petrini L., Pinho R., Sousa R. (2009) “A fibre flexure-shear model for seismic analysis of RC framed structures,” Earthquake Engineering and Structural Dynamics, Vol. 38, pp. 565–586.

Ferracuti B., Pinho R., Savoia M., Francia R. (2009) “Verification of Displacement-based Adaptive Pushover through multi-ground motion incremental dynamic analyses,” Engineering Structures, Vol. 31, pp. 1789-1799.

Pinho R., Monteiro R., Casarotti C., Delgado R. (2009) “Assessment of continuous

span bridges through Nonlinear Static Procedures," Earthquake Spectra, Vol. 25, No. 1, pp. 143-159.

Ahmad N., Crowley H., Pinho R., Ali Q. (2010) "Displacement-based earthquake loss assessment of masonry buildings in Mansehra City, Pakistan," Journal of Earthquake Engineering, Vol. 14, Special Issue 1, pp. 1-37.

Calabrese A., Almeida J.P., Pinho R. (2010) "Numerical issues in distributed inelasticity modelling of RC frame elements for seismic analysis," Journal of Earthquake Engineering, Vol. 14, pp. 38-68.

Colombi M., Crowley H., Di Capua G., Peppoloni S., Borzi B., Pinho R., Calvi G.M. (2010) "Mappe di rischio sismico a scala nazionale con dati aggiornati sulla pericolosità sismica di base locale," Progettazione Sismica, Vol. 2, No. 1, pp. 93-112.

Crowley H., Pinho R. (2010) "Revisiting Eurocode 8 formulae for periods of vibration and their employment in linear seismic analysis," Earthquake Engineering and Structural Dynamics, Vol. 39, pp. 223-235.

Bal I.E., Bommer J.J., Stafford P.J., Crowley H., Pinho R. (2010) "The influence of geographical resolution of urban exposure data in an earthquake loss model for Istanbul," Earthquake Spectra, Vol. 26, No. 3.

Bento R., Bhatt C, Pinho R. (2010) "Using Nonlinear Static Procedures for seismic assessment of the 3D irregular SPEAR building," Earthquake and Structures, Vol. 1, No. 2.

Teramo M.S., Crowley H., Cultrera G., Cirella A., Pinho R. (2010) "Valutazione del rischio sismico per la città diMessina, un approccio ad albero logico," Progettazione Sismica, Vol. 2, No. 2, pp. 95-116.

Calvi G.M., Moratti M., Villani A., Pietra D., Pinho R. (2011) "Progettazione sismica di un ponte strallato di grande luce: il SouthCrossing Bridge in Guayaquil, Ecuador," Progettazione Sismica, Vol. 3, No. 1, pp. 45-85.

Smyrou E., Blandon C., Antoniou S., Pinho R., Crisafulli F. (2011) "Implementation and verification of a masonry panel model for nonlinear dynamic analysis of infilled RC frames," Bulletin of Earthquake Engineering, Vol. 9, No. 5, pp. 1519–1534.

Ceresa P., Brezzi F., Calvi G.M., Pinho R. (2012) "Analytical modelling of a large-scale dynamic testing facility, " Earthquake Engineering and Structural Dynamics, Volume 41, No. 2, pp. 255–277.

Tarque N., Crowley H., Pinho R., Varum H. (2012) "Displacement-based fragility curves for seismic assessment of adobe buildings in Cusco, Peru," Earthquake Spectra, Vol. 28, No. 2, pp. 759–794.

Almeida J.P., Das S., Pinho R. (2012) "Adaptive force-based frame element for regularized softening response," Computers and Structures, Vol. 102–103, pp. 1-13.

Nascimbene R., Fagà E., Cigada A., Vanali M., Moratti M., Pinho R., Calvi G.M. (2012) "Realizzazione di un ponteggiometallico per la Gran Guglia del Duomo di Milano: analisi, modellazione, verifica ed identificazione dinamica," Progettazione Sismica, Vol. 4, No. 1, pp. 11-30.

Pinho R. (2012) "Discussion of Comparison of base shears estimated from floor accelerations and column shears," Earthquake Spectra, Vol. 28, No. 2, pp. 831–832.

Stucchi M., Meletti C., Bazzurro P., Camassi R., Crowley H., Pagani M., Pinho R., Calvi G.M. (2012) "The earthquakes of May 2012 and the seismic hazard of the area: was there any underestimation?," Progettazione Sismica, Vol. 5, No. 3, pp. 63-73.

Silva V., Crowley H., Pinho R., Varum H. (2013) "Extending displacement-based earthquake loss assessment (DBELA) for the computation of fragility curves," Engineering Structures, Vol. 56, pp. 343–356.

Correia A.A., Almeida J.P., Pinho R. (2013) "Seismic energy dissipation in inelastic frames: understanding state-of-the-practice damping models," Structural Engineering International, Issue 2013/2, pp. 148-158.

Pinho R., Marques M., Monteiro R., Casarotti C., Delgado R. (2013) “Evaluation of Nonlinear Static Procedures in the assessment of building frames,” Earthquake Spectra, Volume 29, No. 4, pp. 1459-1476.

Borzi B., Masi A., Pinho R., Pola D., Vona M. (2013) “Seismic performance evaluation of RC frame buildings based in simplified and nonlinear dynamic analyses,” Earthquake and Structures, Vol. 4, No. 3, pp. 157-179.

Silva S., Crowley H., Pagani M., Monelli D., Pinho R. (2014) “Development of the OpenQuake engine, the Global Earthquake Model’s open-source software for seismic risk assessment,” Natural Hazards, Vol. 72, No. 3, pp. 1409-1427.

Silva V., Crowley H., Varum H., Pinho R., Sousa R. (2014) “Evaluation of analytical methodologies used to derive vulnerability functions,” Earthquake Engineering and Structural Dynamics, Vol. 43, pp. 181–204.

Ahmad N., Ali Q., Crowley H., Pinho R. (2014) “Earthquake loss estimation of residential buildings in Pakistan,” Natural Hazards, Vol. 73, pp. 1889–1955.

Monteiro R., Marques M., Adhikari G., Casarotti C., Pinho R. (2014) “Spectral reduction factors evaluation for seismic assessment of frame buildings,” Engineering Structures, Vol. 77, pp. 129–142.

Silva V., Crowley H., Varum H., Pinho R. (2015) “Seismic Risk Assessment for mainland Portugal,” Bulletin of Earthquake Engineering, Vol. 13, No. 2, pp. 429-457.

Silva V., Crowley H., Varum H., Pinho R. (2015) “Investigation of the characteristics of the Portuguese RC building stock and development of a vulnerability model,” Bulletin of Earthquake Engineering, Vol. 13, No. 5, pp. 1455-1490.

Correia A.A., Almeida J.P., Pinho R. (2015) “Force-based higher-order beam element with flexural-shear-torsional interaction in 3D frames. Part I: Theory,” Engineering Structures, Vol. 89, pp. 204–217.

Almeida J.P., Correia A.A., Pinho R. (2015) “Force-based higher-order beam element with flexural-shear-torsional interaction in 3D frames. Part II: Applications,” Engineering Structures, Vol. 89, pp. 218–235.

Bommer J.J., Crowley H., Pinho R. (2015) “A risk-mitigation approach to the management of induced seismicity,” Journal of Seismology, Vol. 19, pp. 623–646.

Casotto C., Silva V., Crowley H., Nascimbene R., Pinho R. (2015) “Seismic fragility of Italian RC precast industrial structures,” Engineering Structures, Vol. 94, pp. 122-136.

Monteiro R., Delgado R., Pinho R. (2016) “Probabilistic seismic assessment of RC bridges: Part I — Uncertainty models,” Structures, Vol. 5, pp. 274–283.

Monteiro R., Delgado R., Pinho R. (2016) “Probabilistic seismic assessment of RC bridges: Part II — Nonlinear demand prediction,” Structures, Vol. 5, pp. 274–283.

Stucchi M., Pinho R., Cocco M. (2016) “After the L’Aquila Trial,” Seismological Research Letters, Opinion Paper, Vol. 87, N. 3, pp. 591-595.

Zelaschi C., Monteiro R., Pinho R. (2016) “Parametric characterization of RC bridges for seismic assessment purposes,” Structures, Vol. 7, pp. 14-24.

Sousa R., Correia A.A., Almeida J.P., Pinho R. (2016) “Numerical modelling of bond-slip effects in reinforced concrete elements,” Revista Portuguesa de Engenharia Estrutural, Vo. 3, N. 2, pp. 33-41. (in Portuguese)

Crowley H., Polidoro B., Pinho R., van Elk J. (2017) “Framework for developing fragility and consequence models for Local Personal Risk,” Earthquake Spectra, Vol. 33, No. 4, pp. 1325–1345.

Crowley H., Pinho R., Polidoro B., van Elk J. (2017) “Developing fragility and consequence models for buildings in the Groningen field,” Netherlands Journal of Geosciences, Vol. 96, No. 5, pp. s247–s257.

van Elk J., Doornhof D., Bommer J.J, Bourne S.J., Oates S.J., Pinho R., Crowley H. (2017) “Hazard and risk assessments for induced seismicity in Groningen,”

Netherlands Journal of Geosciences, Vol. 96, No. 5, pp. s259–s269.

Malomo D., Pinho R., Penna A. (2018) “Using the Applied Element Method for modelling calcium-silicate brick masonry subjected to in-plane cyclic loading,” Earthquake Engineering and Structural Dynamics, Vol. 47, pp. 1610–1630.

Brunesi E., Peloso S., Pinho R., Nascimbene R. (2018) “Cyclic testing and analysis of a full-scale cast-in-place reinforced concrete wall-slab-wall structure,” Bulletin of Earthquake Engineering, Vol. 16, pp. 4761–4796.

Brunesi E., Peloso S., Pinho R., Nascimbene R. (2018) “Cyclic testing of a full-scale two-storey reinforced precast concrete wall-slab-wall structure,” Bulletin of Earthquake Engineering, Vol. 16, pp. 5309–5339.

Calvi G.M., Moratti M., O'Reilly G.J., Scattarreggia N., Monteiro R., Malomo D., Calvi P.M., Pinho R. (2019) “Once upon a Time in Italy: The Tale of the Morandi Bridge,” Structural Engineering International, Vol. 29, No. 2, pp. 198-217.

Crowley H., Pinho R., van Elk J., Uilenreef J. (2019) “Probabilistic damage assessment of buildings due to induced seismicity,” Bulletin of Earthquake Engineering, Vol. 17, pp. 4495-4516.

van Elk J., Bourne S.J., Oates S.J., Bommer J.J., Pinho R., Crowley H. (2019). “A probabilistic model to evaluate options for mitigating induced seismic risk.” Earthquake Spectra, Vol. 35, No. 2, pp. 537-564.

Zelaschi C., Monteiro R., Pinho R. (2019) “Critical assessment of intensity measures for seismic response of Italian RC bridge portfolios,” Journal of Earthquake Engineering, Vol. 23, No. 6, pp. 980-1000.

Monteiro R., Zelaschi C., Silva A., Pinho R. (2019) “Derivation of fragility functions for seismic assessment of RC bridge portfolios using different intensity measures,” Journal of Earthquake Engineering, Vol. 23, No. 10, pp. 1678-1694.

Brunesi E., Peloso S., Pinho R., Nascimbene R. (2019) “Cyclic tensile testing of a three-way panel connection for precast wall-slab-wall structures,” Structural Concrete, Vol. 20, pp. 1307-1315.

Ntinalexis M., Bommer J.J., Ruigrok E., Edwards B., Pinho R., Dost B., Correia A.A., Uilenreef J., Stafford P.J., van Elk J. (2019) “Ground-motion networks in the Groningen Field: Usability and consistency of surface recordings,” Journal of Seismology, Vol. 23, pp. 1233-1253.

Brunesi E., Peloso S., Pinho R., Nascimbene R. (2019) “Shake-table testing of a full-scale two-story precast wall-slab-wall structure,” Earthquake Spectra, Vol. 35, No. 4, pp. 1583-1609.

Brunesi E., Peloso S., Pinho R., Nascimbene R. (2020) “Friction characterisation testing of fabric felt material used in precast structures,” Structural Concrete, Vol. 21, pp. 735–746.

Sousa R., Almeida J.P., Correia A.A., Pinho R. (2020) “Shake table blind prediction tests: contributions for improved fibre-based modeling,” Journal of Earthquake Engineering, Vol. 24, No. 9, pp. 1435-1476.

Malomo D., Pinho R., Penna A. (2020) “Applied Element Modelling of the dynamic response of a full-scale clay brick masonry building specimen with flexible diaphragms,” International Journal of Architectural Heritage, Vol. 14, No. 10, pp. 1484-1501.

Malomo D., Pinho R., Penna A. (2020) “Simulating the shake-table response of URM cavity-wall structures tested to collapse or near-collapse conditions,” Earthquake Spectra, Vol. 36, No. 2, pp. 554-578.

Cavalieri F., Correia A.A., Crowley H., Pinho H. (2020) “Dynamic Soil-Structure Interaction models for fragility characterisation of buildings with shallow foundations,” Soil Dynamics and Earthquake Engineering, Vol. 132, pp. 106004.

Malomo D., Pinho R., Penna A. (2020) “Numerical modeling of the out-of-plane response of full-scale brick masonry prototypes subjected to incremental dynamic

shake-table tests," Engineering Structures, Vol. 209, pp. 110298.

Malomo D., Scattarreggia N., Orgnoni A., Pinho R., Moratti M., Calvi G.M. (2020) "Numerical study on the collapse of the Morandi bridge," ASCE Journal of Performance of Constructed Facilities, Vol. 34, Issue 4, pp. 04020044.

Cavalieri F., Correia A.A., Crowley H., Pinho H. (2020) "Seismic fragility analysis of URM buildings founded on piles: influence of dynamic soil-structure interaction models," Bulletin of Earthquake Engineering, Vol. 18, pp. 4127-4156.

Caruso M., Pinho R., Bianchi F., Cavalieri F., Lemmo M.T. (2020) "A life cycle framework for the identification of optimal building renovation strategies considering economic and environmental impacts," Sustainability, Vol. 12, pp. 10221.

Malomo D., Morandini C., Pinho R., Penna A. (2021) "Impact of ground floor openings percentage on the dynamic response of URM cavity-wall structures," Bulletin of Earthquake Engineering, Vol. 19, pp. 403–428.

Cavalieri F., Correia A.A., Pinho H. (2021) "Variations between foundation-level recordings and free-field earthquake ground motions: numerical study at soft-soil sites," Soil Dynamics and Earthquake Engineering, Vol. 141, pp. 106511.

Edwards B., Crowley H., Pinho R., Bommer J.J. (2021) "Seismic Hazard and Risk Due to Induced Earthquakes at a Shale Gas Site," Bulletin of the Seismological Society of America, Vol. 111, No. 2, pp. 875-897.

Caruso M., Pinho R., Bianchi F., Cavalieri F., Lemmo M.T. (2021) "Integrated economic and environmental building classification and optimal seismic vulnerability/energy efficiency retrofitting," Bulletin of Earthquake Engineering, Vol. 1, pp. 3627–3670.

Calò M., Malomo D., Gabbianelli G., Pinho R. (2021) "Shake-table response simulation of a URM building specimen using discrete micro-models with varying degrees of detail," Bulletin of Earthquake Engineering, Vol. 19, pp. 5953–5976.

Eren N., Sucuoglu H., Pinho R. (2021) "Interstory drift based scaling of earthquake ground motions," Earthquake Engineering Structural Dynamics, Vol. 50, pp. 3814–3830.

Cavalieri F., Correia A.A., Pinho H. (2021) "On the Applicability of Transfer Function Models for SSI Embedment Effects," Infrastructures, Vol. 6, No. 137.

Kruiver P.P., Pefkos M., Meijles E., Aalbersberg G., Campman X., van der Veen W., Martin A., Ooms-Asshoff K., Bommer J.J., Rodriguez-Marek A., Pinho R., Crowley H., Cavalieri F., Correia A.A., van Elk J. (2022) "Incorporating dwelling mounds into induced seismic risk analysis for the Groningen gas field in the Netherlands," Bulletin of Earthquake Engineering, Vol. 20, pp. 255–285.

Scattarreggia N., Salomone R., Moratti M., Malomo D., Pinho R., Calvi G.M. (2022) "Collapse analysis of the multi-span reinforced concrete arch bridge of Caprigliola, Italy," Engineering Structures, Vol. 251, Part A, 113375.

Cavalieri F., Correia A.A., Pinho H. (2022) "Comparative nonlinear soil-structure interaction analyses using macro-element and soil-block modelling approaches," Bulletin of Earthquake Engineering, Vol. 20, pp. 3295–3328.

Scattarreggia N., Galik W., Calvi P.M., Moratti M., Orgnoni A., Pinho R. (2022) "Analytical and numerical analysis of the torsional response of the multi-cell deck of a collapsed cable-stayed bridge," Engineering Structures, Vol. 265, 114412.

Passoni C., Palumbo E., Pinho R., Marino A. (2022) "The LCT Challenge: Defining new design objectives to increase the sustainability of building retrofit interventions," Sustainability, Vol. 14, 8860.

Passoni C., Caruso M., Marini A., Pinho R., Landolfo R. (2022) "The role of Life Cycle Structural Engineering in the transition towards a sustainable building renovation: available tools and research needs," Buildings, Vol. 12, 1107.

Sucuoglu H., Eren N., Pinho R. (2022) "Interstory drift based scaling of bi-directional ground motions," Earthquake Engineering and Structural Dynamics, Vol. 51, pp. 3620–

3638.

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