



Dr Flavia De Luca
PhD(Napoli)

Senior Lecturer in Structural and Earthquake Engineering

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Summary

Dr. Flavia De Luca is Lecturer in the Department of Civil Engineering at University of Bristol since September 2014, her expertise is within the field of structural and earthquake engineering, with specific focus to Reinforced Concrete frame structures. She is part of the Earthquake and Geotechnical Engineering Research Group.

Dr De Luca achieved her PhD in Seismic Risk at University of Naples Federico II under the supervision of Prof Gaetano Manfredi with the thesis *Records, capacity curve fits and reinforced concrete damage states within a Performance Based Earthquake Engineering Framework* on 18th January 2012.

She continued her research as post doctoral fellow at the Department of Structures for Engineering and Architecture of University of Naples Federico II, from February 2012 to August 2014.

Her PhD and post doctoral research experience was immediately characterized by multiple collaborations with different researchers at University of Naples and from other relevant institutions in Europe. During her PhD she coauthored publications with Dr. Iunio Iervolino (Univ. of Naples), Dr. Dimitrios Vamvatsikos (Univ. of Cyprus), Prof Edoardo Cosenza (Univ. of Naples), Dr. Francesca Pacor (INGV Milan) and Dr. Gabriele Ameri (INGV Milan), and Dr. Gerardo Verderame, who became her postdoctoral supervisor.

During the PhD program, Dr. De Luca worked as a visiting PhD student at the University of Cyprus for six months (January - June 2010), collaborating with Dr. Dimitrios Vamvatsikos. This collaboration resulted in a paper on the accuracy of piecewise linear fits for nonlinear static analyses in the high impact journal *Earthquake Engineering and Structural Dynamics*. She collaborated with Dr. Francesca Pacor and Dr. Gabriele Ameri, seismologist from the Italian Institute of Geophysics and Volcanology (INGV) in Milan, within the RELUIS research programme in cooperation with Italian National Civil Protection.

Right after the discussion of her PhD thesis, Dr. De Luca was invited speaker for the Colloquia on Recent Advances in Applied Mechanics and Strength of Materials, at University of Innsbruck, in March 2012 (seminar title: *Hazard analysis and ground motion: PSHA and record selection issues*).

Since summer 2012, Dr. De Luca is second supervisor of Fernando Gomez Martinez, PhD student from University of Valencia, with whom she co-authored different publications. In July 2013, Dr. De Luca's expertise on seismic performances of Reinforced Concrete structures resulted in the invitation as first contributor to the chapter *Seismic Vulnerability Assessment for RC Structures* in *the Encyclopedia of Earthquake Engineering* (edited by Michael Beer, Edoardo Patelli, Ioannis Kougioumtzoglou and Siu-Kui Au, Section Editors Fatemeh Jalayer and Carmine Galasso, Springer), currently accepted for publication.

Since July 2014, she also begun a new research collaboration on seismic loss estimation within performance based earthquake engineering framework with Dr. Carmine Galasso, Lecturer at University College of London and expert in engineering seismology and catastrophe modelling

During the research experience in Italy, from 2008 to 2014, Dr. De Luca took part to post-earthquake in-field campaigns (e.g., L'Aquila 2009) as shown by part of her publications.

Memberships

Organisations

[Department of Civil Engineering](#)

Other sites

- [Engineering](#)

Recent publications

- Giordano, N, De Luca, F & Sextos, A, 2020, '[Out-Of-Plane Closed-Form Solution for the Seismic Assessment of Unreinforced Masonry Schools in Nepal](#)'. *Engineering Structures*, vol 203.
- Lombardi, L, De Luca, F & Macdonald, J, 2019, '[Design of buildings through Linear Time-History Analysis optimising ground motion selection: A case study for RC-MRFs](#)'. *Engineering Structures*, vol 192., pp. 279-295
- Cross, T, Lombardi, L, De Luca, F, De Risi, R, Beardsley, J, Podesta, Md, Clark, R, Rushton, J, Alexander, NA & Sextos, A, 2019, '[Performance comparison of lead rubber bearing and friction pendulum isolation systems on a school in Kathmandu](#)'. in: *Performance comparison of lead rubber bearing and friction pendulum isolation systems on a school in Kathmandu*. National Technical University of Athens
- Cross, T, De Luca, F, De Risi, R, Rana, TR, Mitchell, T & Sweetman, A, 2019, '[POUNDING IN NEPALESE SCHOOL BUILDINGS](#)'. in: *POUNDING IN NEPALESE SCHOOL BUILDINGS*.
- Giordano, N, De Luca, F, Sextos, A & Maskey, PN, 2019, '[Derivation of fragility curves for URM school buildings in Nepal](#)'. in: *Proceedings of the 13th International Conference on Applications of Statistics and Probability in Civil Engineering*. Library of Seoul National University, South Korea
- Pokhrel, R, De Risi, R, Werner, M, De Luca, F, Vardanega, P, Maskey, P & Sextos, A, 2019, '[Simulation-based PSHA for the Kathmandu Basin in Nepal](#)'. in: *13th International Conference on Applications of Statistics and Probability in Civil Engineering(ICASP13), Seoul, South Korea, May 26-30, 2019*. Seoul National University (S-Space), South Korea
- Pokhrel, R, Gilder, C, Vardanega, P, De Luca, F, Werner, M & Maskey, P, 2019, '[Estimation of VS30 by the HVSR Method at a Site in the Kathmandu Valley, Nepal](#)'. in: *2nd International Conference on Earthquake Engineering and Post Disaster Reconstruction Planning (ICEE-PDRP 2019) 25-27 April 2019, Bhaktapur, Nepal*. International Conference on Earthquake Engineering and Post Disaster Reconstruction Planning (ICEE-PDRP), pp. 52-60
- Shephard, C, Vardanega, P, Holcombe, EA, Hen-Jones, R & De Luca, F, 2019, '[Minding the geotechnical data gap: appraisal of the variability of key soil parameters for slope stability modelling in Saint Lucia](#)'. *Bulletin of Engineering Geology and the Environment*, vol 78., pp. 4851?4864
- Li, Y, Lombardi, L, De Luca, F, Farbiarz, Y, Blandon, JJ, Lara, LA, Rendon, JF, Jiang, JZ & Neild, S, 2019, '[Optimal design of inerter-integrated vibration absorbers for seismic retrofitting of a high-rise building in Colombia](#)'. in: *XIIIth International Conference on Recent Advances in Structural Dynamics.*, Lyon
- Chang, Z, De Luca, F & Goda, K, 2019, '[Automated classification of near-fault acceleration pulses using wavelet packets](#)'. *Computer-Aided Civil and Infrastructure Engineering*, vol 34., pp. 569-585

[View complete publications list](#) in the University of Bristol publications system

Courses

Dr De Luca currently teaches 1 courses: