

Francesca Bozzoni

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EDUCATION:

- Master Degree, Environmental and Territorial Engineering – *Soil Protection and Prevention of Natural Risks*, Politecnico di Milano, 2008.
- Bachelor Degree, Environmental and Territorial Engineering, Politecnico di Milano, 2006.

CURRENT ACTIVITY:

Research Engineer
Research group of Geotechnical Earthquake Engineering.

RESEARCH ACTIVITIES:

Topics typical of both the engineering seismology and the seismic geotechnique:

- Development of GIS (Geographic Information System) platforms for areas and structures of relevant geotechnical interest (e.g., seaports and earth dams).
- Seismic hazard assessment at a specific site or for an extended area (seismic macrozonation) by probabilistic and deterministic methods.
- Evaluation of site effects due to geological, geomorphologic and local geotechnical conditions: local litho-stratigraphic amplification taking into account the spatial variability of soil properties by stochastic analyses.
- Estimation of collateral effects induced by the seismic ground shaking: co-seismic and post-seismic instability of natural slopes, liquefaction, soil settlement and lateral displacements.
- Definition of damage maps by fragility curves for areas of relevant geotechnical interest, as seaport areas.
- Seismic-geotechnical characterization of sites and soil model development.
- Reconnaissance survey and analysis of induced geotechnical effects in the immediate aftermath of an earthquake.

FORMER EMPLOYMENT POSITIONS:

- July 2013 – October 2013. Scientific consultant for ENEL Green Power s.p.a
- November 2011 – March 2012. Scientific consultant for OUTEch – Opole University of Technology (Opole)
- January 2009 – March 2009. Technical consultant at Water Engineering s.r.l. (Milano).
- September 2008 – February 2009. Technical consultant at DA Consulting – Centro Prevenzione Rischi sul Lavoro (Cremona).
- October 2006 – February 2009. Tutor at Politecnico di Milano (Milano).

PROFESSIONAL TITLES:

- Winner of the open competitive examination for the recruitment of a research engineer at EUCENTRE, 2013.
- Winner of the open competitive examination for the recruitment of engineers at Agenzia Regionale per la Protezione dell'Ambiente – ARPA Lombardia, 2010.
- Registered to Board of Professional Engineers of Cremona, 2010.

OTHER ACTIVITIES:

- Invited speaker in national and international conferences.
- Member of the Italian committee for seismic-geotechnical effects assessment in the aftermath of an earthquake (Decreto del Capo Dipartimento 828 del 5 marzo 2012).
- Co-advisor of bachelor and master theses.

PUBLICATIONS:

PEER-REVIEWED INTERNATIONAL JOURNALS

- Zembaty, Z., Kokot, S., Bozzoni, F., Scandella, L., Lai, C.G., Kuś, J., Bobra, P., “A system to mitigate deep mine tremor effects in the design of civil infrastructure”. *International Journal of Rock Mechanics and Mining Sciences*, Vol. 1, No. 74, pp. 81-90. January 2015.
- Lai, C.G., Bozzoni, F., Mangriotis, M.D., Martinelli, M., “Soil liquefaction during the May 20, 2012 M5.9 Emilia earthquake, Northern Italy: field reconnaissance and post-event assessment”. *Earthquake Spectra* In-Press. <http://dx.doi.org/10.1193/011313EQS002M>. October 2014.
- Tarque, N., Lai, C.G., Bozzoni, F., Miccadei, E., Piacentini, T., Camata, G., Spacone, E., “Expected ground motion at the historical site of Poggio Picense, Central Italy, with reference to current Italian Building Code”. *Engineering Geology Journal*, Vol. 166, No. 8, pp. 100-115. November 2013.
- Bozzoni, F., Lai, C.G., Scandella, L., “2012 Emilia Earthquakes: Preliminary Results of Ground-Motion Characteristics”. *Annals of Geophysics*, Vol. 55, No. 4. August 2012. DOI: 10.4401/ag-6121.
- Bozzoni, F., Corigliano, M., Lai, C.G., Salazar, W., Scandella, L., Zuccolo, E., Latchman, J., Lynch, L., Robertson, R., “Probabilistic Seismic Hazard Assessment at the Eastern Caribbean Islands”. *Bulletin of Seismological Society of America*, Vol.101, No.5, pp. 2499-2521. October 2011.

NATIONAL JOURNALS

- Famà, A., Bozzoni, F., Lai, C.G., “Valutazione in ambiente GIS del danno sismico di strutture portuali marittime: il caso del porto di Gioia Tauro”. *Progettazione Sismica*. Vol. 5, No. 2, Maggio-Settembre 2014, pp. 49-72.
- Bozzoni, F., Lai, C.G., Martinelli, M., “Liquefazione: confronto tra effetti osservati e valutazioni preliminari della suscettibilità”. *Progettazione Sismica*. Vol. 1, No. 3, Settembre-Dicembre 2012, pp. 95-108.
- Bolognini, D., Scandella, L., Bozzoni, F., Dazio, A., “Dossier preliminare sul terremoto Mw=9.0 di Tohoku dell’11 marzo 2011”. *Progettazione Sismica*. Vol. 1, No. 1, Gennaio-Aprile 2011, pp. 11-38.
- Bozzoni, F., Scandella, L., Lai, C.G., Corigliano, M., “Stima del danno sismico di porti marittimi attraverso la tecnologia GIS: il caso del porto di Salerno”. *Progettazione Sismica*. Vol. 1, No. 1, Gennaio-Aprile 2011, pp. 117-137.

BOOK CHAPTERS

- Tarque, N., Lai, C.G., Bozzoni, F., Miccadei, E., Piacentini, T., Camata, G., Spacone E., “Evaluation of the Ground Motion Amplification at Poggio Picense (Italy)”. *Engineering Geology for Society and Territory, Volume 5 – Urban Geology, Sustainable Planning and Landscape Exploitation*. G. Lollino et al. (eds), Springer International Publishing, pp. 1077-1080; ISBN: 978-3-319-09047-4.

RESEARCH REPORTS

- Lai, C.G., Bozzoni, F., Mangriotis, M.D., Martinelli, M. (2012), “Geotechnical Aspects of May 20, 2012 M5.9 Emilia Earthquake, Italy”, Report by the European Centre for Training and Research in Earthquake Engineering, EUCENTRE (Pavia, Italy). GEER Association Report No. GEER-030. http://www.geerassociation.org/GEER_Post%20EQ%20Reports/Italy_2012/index.html.
- Lai C.G., Bozzoni F., Zuccolo E., Salazar W., Corigliano M., Scandella L., Robertson R., Latchman J., Lynch L. (2012), “Probabilistic Seismic Hazard Assessment in the Eastern Caribbean Islands”, Research Report by European Centre for Training and Research in Earthquake Engineering. Report EUCENTRE-2012/01. IUSS Press, Pavia. March 2012, pp. 239.

INTERNATIONAL CONFERENCES

- Tarque, N., Bozzoni, F., Lai, C.G., Miccadei, E., Piacentini, T., Camata, G., Spacone E., “Seismic ground response analysis at the site of San Felice Church in Poggio Picense (L’Aquila, Italy)”. *Proceedings 10NCEE, Tenth U.S. National Conference on Earthquake Engineering Frontiers of Earthquake Engineering*, Anchorage, Alaska, July 21-25, 2014.
- Bozzoni, F., Famà, A., Lai, C.G., Mirfatah, S.A., “Seismic risk assessment of seaports using GIS: the port of Gioia

- Tauro in Southern Italy”. Proceedings 33rd PIANC World Congress, San Francisco, USA, June 1-5, 2014.
- Andreotti, G., Lai, C.G., Bozzoni, F., Scandella, L. (2013). “Hazard-dependent soil amplification factors derived from 1D fully stochastic ground response analyses.” Proceedings ICEGE 2013, International Conference Earthquake Geotechnical Engineering. Istanbul, Turkey, June 17-19, 2013.
 - Bozzoni, F., Lai, C.G., Mangriotis, M.D., Margiotta, S., “Definition of Seismic Input at the archeological site of Marte Ultore Temple in Rome (Italy)”, Proceedings International Conference on Rehabilitation and Restoration of Structures, Chennai, India, February 13-16, 2013.
 - Palmieri, M., Magenes, G., Lai, C.G., Penna, A., Bozzoni, F., Rota, M., Macchi, G., Auricchio, F., Menon, A., Meher-Prasad, A., “Reduction of Seismic Risk of Roman and Hindu Temples”, Proceedings SAHC 2012, 8th International Conference on Structural Analysis of Historical Constructions, Wroclaw, Poland, October 15-17, 2012.
 - Bozzoni, F., Lai, C.G., “Seismic Risk Assessment of Italian Seaports Using GIS Technology: the Ports of the Calabria Region”, Proceedings 15th World Conference on Earthquake Engineering. Lisbon, Portugal, September 24-28, 2012. Paper No. 2357.
 - Bozzoni, F., Lai, C.G., Bianchi, A., “Application of GIS Technology to Seismic Risk Assessment of Calabrian Seaports in Italy”, Proceedings 2nd Mediterranean Days of Coastal and Port Engineering – Infrastructures, Logistics and Sustainability, Valencia, Spain, May 23-25, 2012.
 - Bozzoni, F., Corigliano, M., Lai, C.G., Scandella, L., Salazar, W., Latchman, J., Lynch, L., Robertson, R., “Probabilistic Seismic Hazard Assessment Study for the Eastern Caribbean Region”, Proceedings 14th European Conference on Earthquake Engineering, Ohrid, Republic of Macedonia, August 30 – September 3, 2010. Paper No. 920.
 - Bozzoni, F., Corigliano, M., Lai, C.G., Scandella, L., “Seismic Risk Assessment of Italian Seaports Using GIS and Guidelines for Seismic Design”, Proceedings 32nd PIANC MMX Congress, 125th Anniversary Liverpool UK, 10-14 May 2010.

NATIONAL CONFERENCES

- Andreotti, G., Lai, C.G., Bozzoni, F., Scandella, L. (2013). “New soil factors for NTC08 derived from 1D fully stochastic ground response analyses”, Proceedings of the Italian National Association of Earthquake Engineering (ANIDIS 2013). Padova, Italy, July 1-4, 2013.
- Zuccolo, E., Corigliano, M., Lai, C.G., Bozzoni, F., Scandella, L., Salazar, W., “Zone-free approach applied to subduction zone in the Eastern Caribbean Islands”. Proceedings 29° Italian National GNGTS (National Group of Geophysics of Solid Earth) Congress, Prato, 26-28 October, 2010.