

**ALLEGATO B**

Curriculum Vitae

Mohsen Kohrangi

INFORMAZIONI PERSONALI **Mohsen Kohrangi**

Sesso | Data di nascita | Nazionalità

POSIZIONE PER LA QUALE SI  
CONCORRE**Incarico di supporto amministrativo all' "Attività di ricerca nell'ambito del progetto europeo METIS: methods and tools innovations for seismic risk assessment for nuclear power plants"**ESPERIENZA  
PROFESSIONALE2019–to date  
(3 years)**Risk Assessment Consultant**

- Focused on the analysis of earthquakes and tropical cyclones impact and on the development of risk models, focusing especially on the development of vulnerability models, the generation of exposure databases and on the elaboration of loss assessment analyses. The research interests include risk related topics such as performance-based earthquake engineering, ground motion record selection, ground motion prediction equations, spectrum matching and portfolio loss estimation.

**Attività o settore** Risk Engineering2016–2018  
(3 years)**Assegno di ricerca**IUSS Pavia, Piazza della Vittoria, 15, 27100 Pavia PV, Italy. <http://www.iusspavia.it/home>

- Scientific research in the field of earthquake risk assessment, ground motion prediction equations, record selection.

**Attività o settore** Tecnica delle costruzioni Classe: Scienze, Tecnologie e Società2017  
(1 year)**Research assistant**Technical University of Isfahan, National Elites Foundation. <https://www.iut.ac.ir/en/danshgah-snty-asfhan>

- Scientific research in the field of urban seismic risk assessment.

**Attività o settore** Department of civil engineering2011-2012  
(1 year)**Research assistant**

Instituto Superior Técnico, Av. Rovisco Pais 1, 1049-001 Lisboa, Portugal.

<https://tecnico.ulisboa.pt/en/>

- Research fellowship on the project of 'Nonlinear Static Methods for the Assessment/Design of 3D irregular structures', task5 which intends to compare different nonlinear static procedures on the irregular structures: buildings and bridges. [www.3disp.org](http://www.3disp.org).

**Attività o settore** Department of civil engineering2011-2012  
(1 year)**Research assistant**EUCENTRE, Via Adolfo Ferrata, 1, 27100 Pavia PV, Italy. <https://www.eucentre.it/?lang=en>

- Research assistant on the project of "Seismic vulnerability of European RC frame buildings".

**Attività o settore** Department of construction and infrastructure

2007-2009

**Structural design engineer**

- (2 years) Dynasys Consulting Engineers, Tehran, Iran.
- Seismic design of complex RC and Steel structures in Iran
- Attività o settore Seismic design office

ISTRUZIONE E FORMAZIONE

- 2012-2015 (3 years) **Dottorato di ricerca: Ingegneria sismica e sismologia** 8  
 IUSS Pavia, Italy. <http://www.iusspavia.it/home>
- **Course work:** Earthquake Geotechnical Engineering, Nonlinear Seismic Analysis of structures, Fundamentals of Seismic Design, Seismic Design of Foundations, Seismic Design of Masonry Structures, Performance based earthquake engineering for tall buildings, Reliability analysis.
  - **Ph.D. dissertation:** "Beyond Scalar Intensity Measures for seismic risk assessment"
    - The study is focused on investigation of innovative solutions to increase the accuracy of probabilistic seismic risk assessment.
    - Development and application of vector probabilistic seismic hazard analysis program to be used in probabilistic seismic demand analysis and building-specific loss estimation.
    - Development of advanced record selection approach based on conditional spectrum based method conditioning on alternative intensity measures.
    - Development of a methodology for consideration of the site-to-site variability in seismic portfolio loss estimation in record selection and incorporation of fragility functions.
- 2009-2011 (2 years) **Master of Science Degree in Earthquake Engineering & Engineering Seismology (MEEES)** 7  
 University of Grenoble, France. <https://www.univ-grenoble-alpes.fr/english/>  
 IUSS Pavia, Italy. <http://www.iusspavia.it/home>  
 University Of Patras, Greece. <http://www.upatras.gr/en>
- **Course work:** Experimental Methods in Earthquake Engineering, Advanced Material and Seismic Retrofit, Static and Dynamic Soil-Structure Interaction, Structural Dynamics and Earthquake Engineering, Seismic Design of Prefabricated Concrete and Timber Structures, Numerical Methods in Structural Engineering, Displacement-based Design of Bridges.
  - **Master dissertation:** "Seismic Assessment of a 15-storey RC Building, AltoRio, Damaged in the Earthquake of Chile, 2010". Investigating the likely reasons for the damage of the case study structure and examining if the available codes and the current analysis tools are capable of addressing the observed event.
- 2007-2009 (2 years) **Master of Science Degree in Earthquake Engineering** 7  
 Amirkabir University of Technology (Tehran Polytechnic), Tehran. <https://aut.ac.ir/>
- **Course work:** Advanced Engineering Mathematics, Dynamics of Structures, Earthquake Resistant Building Design, Finite Element Methods, Earthquake Engineering, Soil Dynamics, Risk Analysis of Structures against Earthquake, Advanced Steel Structures
  - **Master disertation:** "Seismic Performance of Friction Damped Steel Structures in Near-Field Earthquakes". Developing a performance based seismic design method for design of steel structures equipped by frictional bracing systems as well as introducing a method to optimize the corresponding sliding strength of the friction device; with consideration of the Fling and Directivity effects, in near-field events.
- 2003-2007 (4 years) **B.SC. Degree in civil engineering**  
 Azad University of Najafabad, Isfahan, Iran. <https://www.iaun.ac.ir/>

COMPETENZE PERSONALI

Lingua madre Persian

Altre lingue

	COMPRESIONE		PARLATO		PRODUZIONE SCRITTA
	Ascolto	Lettura	Interazione	Produzione orale	
English	Avanzato	Avanzato	Avanzato	Avanzato	Avanzato
Sostituire con il nome del certificato di lingua acquisito. Inserire il livello, se conosciuto					

# ALLEGATO B



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Italiano	Intermedio	Intermedio	Intermedio	Intermedio	Intermedio
Sostituire con il nome del certificato di lingua acquisito. Inserire il livello, se conosciuto					
Arabic	Intermedio	Intermedio	Base	Base	Base
Sostituire con il nome del certificato di lingua acquisito. Inserire il livello, se conosciuto					
Portuguese	Base	Base	Base	Base	Base
Sostituire con il nome del certificato di lingua acquisito. Inserire il livello, se conosciuto					

Livelli: A1/2 Livello base - B1/2 Livello intermedio - C1/2 Livello avanzato  
Quadro Comune Europeo di Riferimento delle Lingue

- Competenze informatiche**
- buona padronanza degli strumenti
    - MATLAB
    - Python
    - OpenSees
    - OpenQuake
    - QGIS
    - SAP/ETABS/SAFE
    - Microsoft Office

- Patente di guida**
- Patente di guida B, Repubblica Italiana
  - Patente di guida B, Iran

## ULTERIORI INFORMAZIONI

- Publicazioni
- Presentazioni
- Progetti
- Conferenze
- Seminari
- Riconoscimenti e premi
- Appartenenza a gruppi / associazioni
- Referenze

### Publications

- Spillatura A, Vamvaticos D, Kohrangi M, Bazzurro P (2023). Harmonizing Seismic Performance via Risk Targeted Spectra: State of the art, dependencies, and implementation proposals. *Earthquake Engineering & Structural Dynamics*. DOI: 10.1002/eqe.3941
- Garcia de Quevedo Inarritu P, Sipcic N, Alvarez L, Kohrangi M, Bazzurro P (2023). A closer look at hazard-consistent ground motion record selection for building-specific risk assessment: Effect of soil characteristics and accelerograms' scaling. *Earthquake Spectra*. DOI: 10.1177/87552930231173713
- Kohrangi M, Bakalis K, Triantafyllou G, Vamvatsikos D, Bazzurro P (2023). Hazard consistent record selection procedures accounting for horizontal and vertical components of the ground motion: Application to liquid storage tanks. *Earthquake Engineering & Structural Dynamics* 52(1). Doi: 10.1002/eqe.3813
- Gil-Martín LM, Hdz.-Gi L, Kohrangi M, Menéndez E, Hernández-Monte E (2022), Fragility Curves for Historical Structures with Degradation Factors Obtained from 3D Photogrammetry. *Heritage* 5(4):3260-3279. Doi: 10.3390/heritage5040167
- Vanderburg L, Kohrangi M, Bazzurro P, Vamvatsikos D (2022) A risk-based evaluation of direct displacement based design. *Bulletin of Earthquake Engineering*. DOI: 10.1007/s10518-022-01447-3
- Kohrangi M, Safaei H, Danciu L, Tajmir-Riahi H, Ajalloeian R, Bazzurro P (2022) Site specific probabilistic seismic hazard model for Isfahan, Iran: estimates and uncertainties *Bulletin of Earthquake Engineering* doi:10.1007/s10518-022-01373-4
- El Jisr H, Kohrangi M, Lignos DG (2022) Proposed nonlinear macro-model for seismic risk assessment of composite-steel moment resisting frames *Earthquake Engineering & Structural Dynamics* 51:1180-1200 doi:https://doi.org/10.1002/eqe.3610
- Šipčić N, Kohrangi M, Papadopoulos AN, Marzocchi W, Bazzurro P (2022) The Effect of Seismic Sequences in Probabilistic Seismic Hazard Analysis *Bulletin of the Seismological Society of America* doi:10.1785/0120210208
- Kondratenko A, Kanyilmaz A, Castiglioni CA, Morelli F, Kohrangi M (2021) Structural performance of automated multi-depth shuttle warehouses (AMSWs) under low-to-moderate seismic actions. *Bulletin of Earthquake Engineering*. DOI: 10.1007/s10518-021-01193-y
- Odabasi Ö, Kohrangi M, Bazzurro P (2021). Tall buildings in Turkey, their characteristic structural

features and dynamic behavior. *Bulletin of Earthquake Engineering*. DOI: 10.1007/s10518-021-01067-3.

- Spillatura A, Kohrangi M, Bazzurro P, Vamvatsikos D (2021). Conditional Spectrum Record Selection Faithful to Causative Earthquake Parameter Distributions. *Earthquake Engineering & Structural Dynamics*. DOI: 10.1002/eqe.3465
- Kohrangi M, Bazzurro P, Vamvatsikos D (2021). Seismic risk assessment for Isfahan. Part I: Exposure and Vulnerability. *Bulletin of Earthquake Engineering*. DOI: 10.1007/s10518-020-01036-2
- Kohrangi M, Bazzurro P, Vamvatsikos D (2021). Seismic risk assessment for Isfahan. Part II: Hazard analysis and risk assessment. *Bulletin of Earthquake Engineering*. DOI: 10.1007/s10518-020-01037-1
- Kohrangi M, Kotha SR, Bazzurro P (2020). Impact of Partially non-ergodic Site-specific Probabilistic Seismic Hazard on Risk 2 Assessment of Single Buildings. DOI: 10.1177/8755293020938813.
- Papadopoulos AN, Kohrangi M, Bazzurro P (2020). Main-shock consistent ground motion record selection for aftershock sequences. *Earthquake Engineering and Structural Dynamics*. 2020; 49: 754–771. <https://doi.org/10.1002/eqe.3263>.
- Kohrangi M, Papadopoulos AN, Bazzurro P, Vamvatsikos D (2020). Correlation of spectral acceleration values of vertical and horizontal ground motion pairs. *Earthquake Spectra*. <https://doi.org/10.1177/8755293020919416>.
- Kohrangi M, Vamvatsikos D, Bazzurro P (2020). Multi-level conditional spectrum-based record selection for IDA. *Earthquake Spectra*. <https://doi.org/10.1177/8755293020919425>.
- Vamvatsikos D, Bakalis K, Kohrangi M, Pyrza S, Castiglioni CA, Kanyilmaz A, Morelli F, Stratan A, D'Aniello M, Calado L, Proença JM, Degee H, Hoffmeister B, Pinkawa M, Thanopoulos P, Vayas I (2020). A risk-consistent approach to determine EN1998 behaviour factors for lateral load resisting systems. *Soil Dynamics and Earthquake Engineering*. <https://doi.org/10.1016/j.soildyn.2019.106008>.
- Kohrangi M, Danciu L, Bazzurro P (2019). Comparison between outcomes of the 2014 Earthquake Hazard Model of the Middle East (EMME14) and national seismic design codes: The case of Iran. *Soil Dynamics and Earthquake Engineering*. <https://doi.org/10.1016/j.soildyn.2018.07.022>
- Farag MMN, Mehanny SSF, Kohrangi M, Vamvatsikos D, Bakhroum MM (2019). Precast beam bridges with a buffer-gap-elastomeric bearings system: uncertainty in design parameters and randomness in ground records. *ASCE Journal of Bridge Engineering*, 24(5): 04019034. DOI: 10.1061/(ASCE)BE.1943-5592.0001396.
- Kohrangi M, Bazzurro P, Vamvatsikos D (2019). Conditional spectrum bidirectional record selection for risk assessment of 3D structures using scalar and vector IMs. *Earthquake Engng Struct Dyn*. 48: 1066– 1082. <https://doi.org/10.1002/eqe.3177>.
- Kohrangi M, Vamvatsikos D, Bazzurro P (2019). Pulse versus nonpulselike ground motion records: Spectral shape comparisons and record selection strategies. *Earthquake Engng Struct Dyn*. 2019; 48: 46– 64. <https://doi.org/10.1002/eqe.3122>.
- Papadopoulos A, Kohrangi M, Bazzurro P (2018), "Correlation of Spectral Acceleration Values of Mainshock-Aftershock Ground Motion Pairs", *Earthquake Spectra*. DOI: <https://doi.org/10.1193/020518EQS033M>
- Bakalis K, Kohrangi M, Vamvatsikos D (2018). Seismic intensity measures for liquid storage tanks. *Earthquake Engineering and Structural Dynamics*. DOI: 10.1002/eqe.3043.
- Kohrangi M, Kotha SR, Bazzurro P (2017). Ground-motion models for average spectral acceleration in a period range: direct and indirect methods. *Bulletin of Earthquake Engineering*.
- Orumiyehei A., Kohrangi M, Bazzurro P (2017). Seismic Performance of 3-D Infilled and Bare Frame RC Building Models using Average Spectral Acceleration. *Procedia Engineering*. 199(Supplement C): 3558-3563.
- Kohrangi M, Bazzurro P, Vamvatsikos D (2017). Site dependence and record selection schemes for building fragility and regional loss assessment. *Earthquake Engineering and Structural Dynamics*. DOI: 10.1002/eqe.2876
- Kohrangi M, Bazzurro P, Vamvatsikos D, Spillatura A (2017). Conditional Spectrum based ground motion record selection using average spectral acceleration. *Earthquake Engineering and Structural Dynamics*. DOI: 10.1002/eqe.2873.

**Curriculum Vitae**

Mohsen Kohrangi

- Kohrangi M, Bazzurro P Vamvatsikos, Vamvatsikos D (2016). Vector and Scalar IMs in Structural Response Estimation, Part I: Hazard Analysis. *Earthquake Spectra*: August 2016, Vol. 32, No. 3, 1501-1524. doi: <http://dx.doi.org/10.1193/053115EQS080M>.
- Kohrangi M, Bazzurro P Vamvatsikos, Vamvatsikos D (2016). Vector and Scalar IMs in Structural Response Estimation, Part II: Building Demand Assessment. *Earthquake Spectra*: August 2016, Vol. 32, No. 3, 1525-1543. doi: <http://dx.doi.org/10.1193/053115EQS081M>.
- Kohrangi M, Vamvatsikos D, Bazzurro P (2016) Implications of IM selection for seismic Loss Assessment of 3D Buildings, *Earthquake Spectra*, doi: <http://dx.doi.org/10.1193/112215EQS177M>.
- Kohrangi M, Bento R, Lopes M (2014) Seismic performance of irregular bridges—comparison of different nonlinear static procedures, *Struct Infrastruct Eng*, 1–19.

**Conference papers**

- Papadopoulos, A., Kohrangi, M., and P. Bazzurro (2019), Aftershock ground motion record selection: a novel main-shock consistent approach. *COMPdyn 2019- 7th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering*. At: Crete, Greece.
- O'Reilly GJ, Kohrangi M, Bazzurro P, Monteiro R (2018). Intensity Measures for the Collapse Assessment of Infilled RC Frames. *16ECEE 2018, Thessaloniki, Greece*.
- Margnelli A, Kohrangi M, Giaralis A, Vamvatsikos D (2018). Influence of non-stationary frequency content of recorded ground motions to seismic demand of multi-story structures via the wavelet based alpha index. *16ECEE 2018, Thessaloniki, Greece*.
- Kohrangi M., Vamvatsikos D., Bazzurro P. (2018). Conditional Spectrum based record selection for nonlinear dynamic analysis of 3D structural models. *16ECEE 2018, Thessaloniki, Greece*.
- Kohrangi M., Vamvatsikos D., Bazzurro P. (2018). The role of spectral shape and pulse period for record selection in the near field. *Proceedings of the 11th National Conference in Earthquake Engineering, Los Angeles, CA*.
- Kohrangi M., Vamvatsikos D., Bazzurro P. (2018). Multi-level conditional spectrum-based record selection for IDA. *Proceedings of the 11th National Conference in Earthquake Engineering, Los Angeles, CA*.
- Spillatura, A., Vamvatsikos, D., Bazzurro, P., Kohrangi, M. (2017). Issues in Harmonization of Seismic Performance via Risk Targeted Spectra. *13th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP13, at: Seoul, South Korea*.
- Kohrangi, M., Vamvatsikos D., Bazzurro, P. "A record selection methodology for vulnerability function: consistent with regional seismic hazard for classes of buildings", *WCEE 2017, Santiago, 9-13 January 2017*.
- Kohrangi, M., Sullivan. T.J. Calvi, J. M, "Seismic Assessment of AltoRio Building Collapsed in the Recent Earthquake of Chile, 2010", *WCEE 2012, Lisbon*
- Kohrangi. M, Bento. R, Lopes. M, "Evaluation of Nonlinear Static Procedures for Seismic Assessment of Irregular Bridges", *WCEE 2012, Lisbon*
- Sousa, R., Eroğlu, T., Kazantzidou-Firtinidou, D., Kohrangi, M., Sousa, L., Pinho, R. and Nascimbene R., "Effect of different modelling assumptions on the seismic response of RC structures", *WCEE 2012, Lisbon*.
- Sousa, R., Eroğlu, T., Kazantzidou-Firtinidou, D., Kohrangi, M., Sousa, L., Pinho, R. and Nascimbene R., "Reliability of Nonlinear Static Analysis for Seismic Assessment of Irregular RC Buildings", *WCEE 2012, Lisbon*.
- Kohrangi. M, Taghikhani. T, Tehranizade. M. "Seismic Performance of Friction Damped Steel Structures in Near-field Earthquakes", *ICOSSAR 2009, Osaka 13-17 September, 2009*.

**PEER-REVIEWER For**

- Journal of Earthquake Engineering and Structural Dynamics
- Journal of Earthquake Spectra

- Bulletin of Earthquake Engineering
- Journal of Earthquake Engineering and Engineering Vibration
- Journal of Construction Steel Research
- Journal of Earthquake Engineering
- Journal of risk analysis
- Journal of Scientia Iranica
- Journal of structural concrete
- International Journal of Disaster Risk Reduction
- Journal of Earthquake and Tsunami

#### INVITED LECTURES

- University of Isfahan. Record selection and Intensity measure choice in seismic risk assessment.
- International Institute of Earthquake Engineering and Seismology. Urban seismic risk engineering

#### References

- Prof. Paolo Bazzurro. Email: [paolo.bazzurro@iusspavia.it](mailto:paolo.bazzurro@iusspavia.it)
- Prof. Dimitrios Vamvatsikos: Email: [divamva@central.ntua.gr](mailto:divamva@central.ntua.gr)
- Prof. Tim Sullivan: Email: [timothy.sullivan@canterbury.ac.nz](mailto:timothy.sullivan@canterbury.ac.nz)
- Eng. Ali Asghar Taheri Behbahani. Email: [aataheri@yahoo.com](mailto:aataheri@yahoo.com)

#### ALLEGATI

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- copie delle lauree e qualifiche conseguite;

Data 19/06/2023

Firma **Mohsen Kohrangi**