

# Farhad Behnamfar

(Updated: Oct. 26, 2024)

## Work Address

Department of Civil Engineering, Isfahan University of Technology,  
Isfahan 84156-83111, Iran.

Tel.: +98-31-33913844 (Work), +98-913-1061754 (Mobile), Email: [farhad@iut.ac.ir](mailto:farhad@iut.ac.ir)

Web: <https://behnamfar.iut.ac.ir>

## Education

*Tohoku University, Sendai, Japan*

PhD in Civil Engineering/Structural – Specialization: Soil-Structure Interaction (Sep. '97)

Dissertation subject: **Dynamic Response of Structures Considering Cross-Interaction Subject to Random Incident Waves**

*University of Tehran*

MSc in Civil Engineering/Structural (Sep. '90)

Thesis subject: **Approximate and Exact Methods for Dynamic Analysis of Base-Isolated Structures**

BSc in Civil Engineering (Sep. '88)

## Professional Affiliations

Iranian Earthquake Engineering Association

Earthquake Engineering Research Institute (EERI)

## Professional Experience

*Department of Civil Engineering, Isfahan University of Technology (IUT)*

Professor (Oct. 2021 to present), Associate Professor (Nov. 2013 to Oct. 2021), Assistant Professor (Sep. 2003 to Nov. 2013)

*Department of Structural Engineering, International Institute of Earthquake Engineering and Seismology (IIEES)*

Assistant Professor (Sep. 1998 to Sep. 2003)

Current responsibilities include:

1. **Research:** in various aspects of earthquake engineering analysis and design especially performance based design and nonlinear static and dynamic analysis of structures. Supervising MSc and PhD students, with complete listing at <https://behnamfar.iut.ac.ir/Theses> and <https://behnamfar.iut.ac.ir/theses-under>.
2. **Teaching:**
  - Undergraduate:** Dynamics, Strength of Materials, Earthquake Engineering.
  - Graduate (M.Sc.):** Dynamics of Structures, Earthquake Engineering, Seismic Risk Analysis, Earthquake Resistant Design, Seismic Rehabilitation.
  - Graduate (Ph.D.):** Soil-Structure Interaction, Advanced Dynamics of Structures, Boundary Elements Method, Geotechnical Earthquake Engineering.

### 3. Industry:

- Head of one of four working teams assessing the seismic vulnerability of various industrial structures of Tehran refinery from May 2001. The project fulfilled in August 2002.
- Head of one of three working teams assessing the seismic vulnerability of Shiraz petrochemical complex from December 2002 till December 2003.
- Technical manager of the project on seismic evaluation of the schools of Tehran district 1 from June 2003 to June 2005.
- Invited researcher for earthquake engineering studies, Wupertal University, Wupertal, Germany, 2006.
- Member of the team on “Seismic Microzonation of Kashan City”, 2008-2009.
- Project manager of an analytical and experimental research work on seismic resistant precast concrete moment frames, 2008-2010.
- Manager of the project ‘Seismic Evaluation & Strengthening of Esfahan Power Plant and Shahrekord Power House”, 2009-2012.
- Manager of the project ‘Seismic Evaluation & Strengthening of Boushehr Province Gas Stations”, 2012-2014.
- Manager of the project “Seismic Strengthening of Ancient Closed-Roof Traditional Bazars of Isfahan”, 2014, under a contract with Isfahan municipality.

### 4. Building Codes:

- Member of the technical committee for revision of the Iranian Code for Seismic Design of Buildings, from October 2019 till now.
- Member of the technical committee preparing the manual of seismic vulnerability assessment and rehabilitation of existing buildings under a grant from the Iranian planning and management organization from September 2000. The manual was prepared in July 2002.
- Member of the technical committee for subsequent revisions of the manual of seismic vulnerability assessment and rehabilitation of existing buildings, from February 2005 till now.
- Member of the technical committee preparing the manual of rapid seismic evaluation of existing buildings, from July 2003 to July 2006.
- Member of the technical committee preparing the code of practice for seismic vulnerability assessment and rehabilitation of existing bridges, 2005-2007.
- Member of the technical committee preparing the seismic design code for petroleum facilities for the Iranian oil ministry, from August 2002.
- Member of the technical committee preparing the manual of seismic vulnerability assessment and rehabilitation of existing network of electric power distribution under a grant from the Iranian planning and management organization, 2006-2010.
- Technical manager of the committee on preparing the handbook of seismic vulnerability assessment and rehabilitation of existing buildings under a grant from the Iranian planning and management organization from November 2005 to July 2007.

## 5. Editorship:

- Guest editor, Frontiers in Built Environment, <https://www.frontiersin.org/research-topics/20410/energy-dissipation-systems-and-seismic-fuses>.
- Editor of the civil engineering section of International Journal of Engineering, [www.ije.ir](http://www.ije.ir).
- Member of the editorial board of Journal of Sharif University of Technology, <http://sjce.journals.sharif.edu/journal/editorial.board?lang=en>.
- Reviewer of several international journals including: Engineering Structures, Constructional Steel Research, Structural Design of Tall and Special Buildings, Soil Dynamics and Earthquake Engineering, Earthquake Engineering and Engineering Vibration, Bulletin of Earthquake Engineering, Journal of Earthquake Engineering, Tunneling and Underground Space Technology, etc.

## 6. Consulting:

- Member of a team for seismic evaluation of a 56-story residential tower in Tehran, spanned from Feb. 2001 to Dec. 2002.
- Technical manager of the project on seismic evaluation and rehabilitation of a number of Tehran-Ahvaz railway bridges, August 2003 till Aug. 2005.
- Technical manager of the project on repair and strengthening of a number of earthquake damaged buildings of Bam city, 2005-2007.
- Technical manager of different seismic evaluation and rehabilitation projects on hospitals, schools, bridges, communication systems, Gas distribution networks, electrical substations, 2003-2011.
- Senior advisor, structural engineering consultants, from Oct. 97 till now.

## 7. Books:

- Soil-Structure Interaction; Behnamfar F., Simayedanesh Publishers, 2023: <https://www.simayedanesh.ir/book/29036/>
- Seismic Rehabilitation of Structures; Behnamfar F., Kankash Publishers, 2018: <https://www.gisoom.com/book/11506816/> - کتاب-مفاهیم-بهبسازی-لرزه-ای-ساختمانهای-موجود

## **Publications:**

### **1) Journal publications**

1. Jabari Salmi Z., Khodakarami M.I., Behnamfar F. (2024). "A machine learning-based framework for estimating fragility parameters in RC/MR frames considering seismic, structural, and site attributes," *Journal of Earthquake Engineering* (Accepted). <https://doi.org/10.1080/13632469.2024.2400194>
2. Almohammad-albakkar M., Behnamfar F. (2024). "Effects of Stiffener characteristics on the performance of the novel grooved gusset plate damper for cross-braced frames: Numerical and experimental study," *International Journal of Steel Structures* <https://doi.org/10.1007/s13296-024-00882-z>
3. Koozaizadeh J., Behnamfar F., Javaheri Tafti M.R. (2024). "Experimental evaluation of cyclic behavior of precast concrete frame with steel shear wall," *The Structural Design of Tall and Special Buildings* 2024;33:e2164, <https://doi.org/10.1002/tal.2164>.
4. Koozaizadeh J., Behnamfar F., Javaheri Tafti M.R. (2024). "Laboratory evaluation of cyclic behavior of precast concrete frame with steel shear wall," *Modares Civil Engineering Journal*, (accepted) (In Persian with English abstract).
5. Behnamfar F., Hadian A., Farazmand M. (2024). "Ductility demand estimation of high-rise steel special moment frames due to structure-pile-soil interaction," *Geomechanics and Geoengineering*, DOI: 10.1080/17486025.2024.2357186 (Accepted).
6. Aghliani M., Behnamfar F. (2024). "Three-dimensional behavior of a pure bending yielding damper," *Soil Dynamics and Earthquake Engineering*, 182, 108719.
7. Almohammad-albakkar M., Behnamfar F., Ataei A. (2024). "Experimental and numerical study of grooved gusset plate damper for cross-braced frames," *Journal of Constructional Steel Research*, 216, 108611.
8. Mehrbod A.H., Behnamfar F., Aziminejad A., Hashemol-Hosseini H. (2024). "Seismic reliability of stone arch bridges considering the uncertainty of material properties based on the response surface method," *Journal of Analysis of Structure and Earthquake*, Vol. 21, Issue 2, pp. 1-20 (in Persian).
9. Mozaheb S.A., Behnamfar F. (2024). "Finite element analysis of elastomeric sliding isolator system (ESI)", *Structural Engineering and Construction* (Accepted) (in Persian).
10. Behnamfar F., Almohammad-albakkar M. (2023). "Development of Steel Yielding Seismic Dampers Used to Improve Seismic Performance of Structures: A Comprehensive Review," *International Journal of Engineering, Transactions A: Basics*, Vol. 36, No. 04, 746-775.
11. Behnamfar F., Ahmadi A., Gohari Anaraki A.M., Mazrouei V. (2023). "Performance evaluation of concentrically braced frames equipped with pure bending yielding damper," *Structures*, 58, 105650.
12. Mehrbod A.H., Behnamfar F., Aziminejad A., Hashemol-Hosseini H. (2023). "Seismic vulnerability assessment of stone arch bridges by nonlinear dynamic analysis using discrete element method," *International Journal of Architectural Heritage*, 17:11, 1791-1812.
13. Ghandil M., Tajmir Riahi H., Behnamfar F. (2023). "Numerical and experimental studies on a new metallic-yielding piston damper based on pure-bending flexural yielding mechanism," *Journal of Building Engineering*, 78, 107690.

14. Yazdani A. A., Behnamfar, F. (2023). "Serviceability design spectral acceleration for structures subjected to passing underground trains," *Iranian Journal of Science and Technology, Transactions of Civil Engineering*, <https://doi.org/10.1007/s40996-023-01117-7>.
15. Jabari Salmi Z., Khodakarami M.I., Behnamfar F. (2023). "Development of seismic fragility curves for RC/MR frames using machine learning methods," *Asian Journal of Civil Engineering*, Vol. 24, pp. 823-836.
16. Almohammad-albakkar M., Behnamfar F. (2022). "Numerical investigation of grooved gusset plate damper for using in cross-braced frames," *Journal of Constructional Steel Research*, 196, 107434.
17. Mostafaei H., Behnamfar F., Alembagheri M. (2022). "Reliability and sensitivity analysis of wedge stability in the abutments of an arch dam using artificial neural network," *Earthquake Engineering and Engineering Vibration*, 21(4), 1019-1033.
18. Mirlohi J., Memarzadeh P., Behnamfar F., Bayat M. (2022). "Rocking motion of a mid-rise steel plate shear wall on foundation-soil medium," *Iranian Journal of Science and Technology, Transactions of Civil Engineering* (Accepted).
19. Behnamfar F., Fazili Nezhad H. (2022). "Comparison of seismic fragility of special moment frames in recent editions of ASCE 7 and ACI 318 regulations," *Journal of Numerical Methods in Civil Engineering*, 7-2, 16-32.
20. Behnamfar F., Hosseini-Rad A., Mesr Habiby Y. (2022). "A procedure for damage-based seismic design of moment frame structures," *Bulletin of Earthquake Engineering* (Accepted).
21. Shams A.H., Behnamfar, F. (2022). "Nonlinear seismic behavior of torsional buildings designed based on force and displacement procedures," *Iranian Journal of Science and Technology, Transactions of Civil Engineering* (Accepted).
22. Panahi M., Behnamfar, F. (2022). "Comparison of the lateral behavior of precast concrete frames equipped with and without steel shear wall using cyclic analysis," *Bulletin of Earthquake Science and Engineering*, Vol. 9, pp 55-75 (In Persian with English abstract).
23. Ghandil M., Tajmir Riahi H., and Behnamfar F. (2022). "Introduction of a new metallic-yielding pistonic damper for seismic control of structures," *Journal of Constructional Steel Research*, 194: 107299.
24. Behnamfar F., Arman S., and Zibasokhan H. (2022). "Steel rings as seismic fuses for enhancing ductility of cross braced frames," *Earthquake Engineering and Engineering Vibration*, 21 (4), pp 1103-1117.
25. Behnamfar F., Eslami S., Sayyadpour H. (2022). "Evaluation of the YPS method for Regular RC Buildings Designed Based on the Iranian Standard 2800," *Amirkabir Journal of Civil Engineering*, Vol. 53, No.8, pp 3535-3554.
26. Faraj Mohammadieh M., Behnamfar F., and Mohammadi S. J. (2022). "Effects of Urban Tunnel Excavation in Tehran in Response to Existing Static and Dynamic Structures in Terms of Soil and Structure Interaction," *Amirkabir Journal of Civil Engineering* (Accepted).
27. Mostafaei H. and Behnamfar F. (2022). "Wedge movement effects on the nonlinear behavior of an arch dam subjected to seismic loading," *International Journal of Geomechanics*, 22(3): 04021289.

28. Nazaralizadeh H., Ronagh H., Memarzadeh P., Behnamfar F. (2021). "A practical design approach to bolted end-plate vertical-slits RWS connection," *Bulletin of Earthquake Engineering*, doi: 10.1007/s10518-021-01238-2.
29. Abbasnia Marzouni H. and Behnamfar F. (2021). "Nonlinear Response Study and a Rotational Spring Model for Degrading Cyclic Behavior of Interior Reinforced Concrete Connections," *Journal of Earthquake Engineering* (Accepted). doi: 10.1080/13632469.2020.1756989.
30. Akhoondi M.R. and Behnamfar F. (2021). "Seismic fragility curves of steel structures including soil-structure interaction and variation of soil parameters," *Soil Dynamics and Earthquake Engineering*, Vol. 143, 106609.
31. Beyki Milajerdi M. and Behnamfar F. (2021). "Soil-structure interaction analysis using neural networks optimized by genetic algorithm," *Geomechanics and Geoengineering* (Accepted). DOI: 10.1080/17486025.2021.1940313.
32. Morsali, V., Behnamfar, F. (2021). "Seismic Damage Based Design of Steel Moment Frames," *European Journal of Environmental and Civil Engineering*, Vol. 25, No. 9, pp 1591-1608.
33. Mohammadi E. and Behnamfar F. (2021). "An equation to estimate maximum normal strain of buried steel pipes at bend area under propagating waves in sands," *Scientia Iranica* (Accepted).
34. Sheikh Bahaei P., Behnamfar F., Kabiri Samani A. (2021). "Dynamic response of cylindrical water storage tanks made by ECC compared to normal concrete," *Earthquakes and Structures*, Vol. 20, No. 5, pp 513-529.
35. Bagheri G., Ashtari P., Behnamfar F. (2021). "Rigid-Plastic Analysis of Seismic Resistant T-Frame considering Moment-Shear Interaction," *Shock and Vibration*, Vol. 2021, Article ID 8844039, 12 pages.
36. Mostafaei H., Behnamfar F., Kelishadi M., Aghababaie M. (2021). "The effects of friction coefficient on the nonlinear behavior of an arch dam with jointed foundation," *Numerical Methods in Civil Engineering*, Vol. 5, No. 4, 36-45.
37. Behnamfar F., Tavakoli B. (2021). "Developing a method for multi-modal shear-based pushover analysis," *Asian Journal of Civil Engineering*, 22: 217–228.
38. Shafiei Varzaneh M., Behnamfar F. (2021). "Effect of opening on the lateral stiffness of masonry walls with and without ties," *Amirkabir J. Civil Eng.*, 52(12), 1-12 (In Persian with English abstract).
39. Madani B., Behnamfar F. (2021). "Parametric Study of Structure-Soil-Structure Interaction in Time and Frequency Domains," *Amirkabir J. Civil Eng.*, 52(11), 1-17 (In Persian with English abstract).
40. Kermani, M., Saadatpour, M. M., Behnamfar, F., Ghandil, M. (2020). "Effects of Seismic Pounding between Adjacent Structures Considering Structure-Soil-Structure Interaction," *Scientia Iranica A*, 27(5), 2230-2246.
41. Kazemi M.S., Behnamfar F. (2020). "Active control of structures based on an arbitrary damage index distribution," *Amirkabir J. Civil Eng.*, 4(3), 385-396.
42. Mostafaei H., Behnamfar F., Alembagheri M. (2020). "Nonlinear analysis of stability of rock wedges in the abutments of an arch dam due to seismic loading," *Structural Monitoring and Maintenance*, Vol. 7, No. 4, 295-317.

43. Davarpanah M., Ronagh H., Memarzadeh P., Behnamfar F. (2020). "Cyclic behavior of welded elliptical-shaped RWS moment frame," *Journal of Constructional Steel Research*, Vol. 175, 106319 (pp. 1-17).
44. Nazaralizadeh H., Ronagh H., Memarzadeh P., Behnamfar F. (2020). "Cyclic performance of bolted end-plate RWS connection with vertical slits," *Journal of Constructional Steel Research*, Vol. 173, 106236 (pp. 1-18).
45. Davarpanah M., Ronagh H., Memarzadeh P., Behnamfar F. (2020). "Cyclic behaviour of elliptical-shaped reduced web section connection," *Structures*, Vol. 24, 955-973.
46. Shirzadi M., Behnamfar F., Asadi P. (2020). "Effects of soil-structure interaction on inelastic response of torsionally-coupled structures," *Bulletin of Earthquake Engineering*, Vol. 18: 1213-1243.
47. Soltanabadi R., Mamazizi A., Behnamfar F. (2020). "Evaluating the performance of chevron braced frame with RSCD viscoplastic damper," *Engineering Structures*, Vol. 206, 110190.
48. Behnamfar F., Babaei A.H., Ghandil M. (2020). "Smoothed response spectra including soil-structure interaction effects," *Earthquake Engineering and Engineering Vibration*, 19(1): 37-51, January.
49. Haghollahi S., Behnamfar F. (2020). "Performance Evaluation of Special RC Moment Frames against Collapse Considering Soil-Structure Interaction," *International Journal of Geomechanics*, ASCE, 20(2): 04019176.
50. Behnamfar, F. Soltanabadi, R. (2020). "Analytical studies on a combined rubber-steel damper for repairable steel moment connections," *Journal of Earthquake Engineering*, 24:1, 37-58.
51. Mostafaei H., Behnamfar F. (2019) "Effect of the vertical earthquake component on nonlinear behavior of an arch dam having a foundation with discontinuities," *Numerical Methods in Civil Engineering*, Vol. 4, No. 2, 69-78.
52. Andalibi M., Behnamfar F. (2019). "An approximate method for separated spectral analysis of connected buildings with added damping," *Structural Design of Tall and Special Buildings*, 28(10):1-17 (July).
53. ZibaSokhan H., Behnamfar F., Azhari M. (2019). "Experimental study of a new pure bending yielding dissipater," *Bulletin of Earthquake Engineering*, 17: 4389-4410.
54. Farahani D., Behnamfar F., Sayyadpour H. (2019). "Effect of pounding on nonlinear seismic response of torsionally coupled steel structures resting on flexible soil," *Engineering Structures*, 195: 243–262.
55. Farahani D., Behnamfar F., Sayyadpour H., Ghandil M. (2019). "Seismic impact between adjacent torsionally coupled buildings," *Soil Dynamics and Earthquake Engineering*, 117: 81–95.
56. Hajimehrabi, H., Behnamfar, F., Kabiri Samani, A., Goudarzi, M.A. (2019). "Fragility curves for baffled concrete cylindrical liquid-storage tanks," *Soil Dynamics and Earthquake Engineering*, Vol. 119, 187-195.
57. Behnamfar, F., Talebi Velni, M. (2019). "A rapid screening method for selection and modification of ground motions for time history analysis," *Earthquakes and Structures*, Vol. 16, No. 1, 29-39.

58. Behnamfar, F., Naseri-Dehkordi, A. (2019). "Modal nonlinear static analysis of structures based on story shears," *Amirkabir University Journal of Civil Engineering*, 3(1), 119-128.
59. Shakeri, E., Behnamfar, F. (2019). "A survey on parameters affecting the lateral behavior of composite shear walls," *Journal of Amirkabir University of Technology*, 51(1), 67-76 (In Persian with English abstract).
60. Faraj Mohammadi, M., Behnamfar, F., Ouria, A. (2018). "Effects of Deep Excavation on Seismic Vulnerability of Existing Steel Framed Structures," *Modares Civil Engineering Journal*, Vol. 18, No. 4 (In Persian with English abstract).
61. Hadi, M., Behnamfar, F., Arman, S. (2018). "A Shear-based Adaptive Pushover Procedure for Moment-resisting Frames," *AUT Journal of Civil Engineering*, Vol. 2, No. 2, 183-194.
62. Nikbakht, R., Behnamfar, F. (2018). "Response Spectra of Structures under Subway Induced Vibrations," *International Journal of Engineering, Transactions C: Aspects*, Vol. 31, No. 12, December: 2009-2015.
63. Sabet Rasekh, M., Behnamfar, F. (2018). "Displacement-based design of torsional buildings considering two-way nonlinearities," *Journal of Sharif University of Technology (Accepted)* (In Persian with English abstract).
64. Behnamfar, F., Pouyan, F., Omid, M. and Zibasokhan, H. (2018). "Effect of uplift on behavior of steel structures and response modification factors," *Journal of Amirkabir University of Technology*, 50 (2): 315-326 (In Persian with English abstract).
65. BiabanNavard, M., Behnamfar, F., and Zibasokhan, H. (2018). "Cyclic behavior of battened and laced columns and proposing a substitute super-element," *Journal of Amirkabir University of Technology*, 50 (1): 97-110 (In Persian with English abstract).
66. Heydari, M., Behnamfar, F., and Zibasokhan, H. (2018). "A macro-model for nonlinear analysis of 3D reinforced concrete shear walls," *International Journal of Engineering, Transactions B: Applications*, 31 (2), 220-227.
67. Karimi, M., Behnamfar, F. (2018). "A three-dimensional drift pushover method for unsymmetrical plan buildings," *Bulletin of Earthquake Engineering*, No. 11, Vol. 16: 5397-5424, Nov.
68. Moradi, R., Behnamfar, F., Hashemi, S. (2018). "Mechanical model for cylindrical flexible concrete tanks undergoing lateral excitation," *Soil Dynamics and Earthquake Engineering*, 106, 148-162.
69. Behnamfar, F., Najari, M. (2018). "Combined dynamic actuator-shake table test with optimized input energy," *Journal of Engineering Mechanics, ASCE*, 144 (3): 1-6.
70. Soltanabadi, R., Behnamfar, F. (2018). "Experimental studies on a combined damper for repairable steel moment connections," *International Journal of Steel Structures*, 18 (1), pp 211-224, March.
71. Yazdabad, M., Behnamfar, F., Samani, A.K. (2018). "Seismic behavioral fragility curves of concrete cylindrical water tanks for sloshing, cracking, and wall bending," *Earthquakes and Structures*, 14 (2): 95-102.
72. Jafari, A., Kabiri-Samani, A., Behnamfar, F., (2018). "Flow-induced horizontal and vertical vibrations of sluice gates due to different hydraulic conditions," *Water Management, Proceedings of the Institution of Civil Engineers*, 171(3), 152-162.



73. Behnamfar, F., Fathollahi, A. (2017). "Soft Soil Seismic Design Spectra Including Soil-Structure Interaction," *International Journal of Engineering, Transactions A: Basics*, 30 (10), 1443-1450.
74. Soleimani, E., Behnamfar, F. (2017). "New moment-rotation equation for welded steel beam-to-column connections," *International Journal of Steel Structures*, 17 (2): 1-23.
75. Behnamfar, F., Mirhosseini, M., Alibabaei, H. (2017). "Seismic behavior of structures considering uplift and soil structure interaction," *Advances in Structural Engineering*, 20 (11): 1712-1726.
76. Behnamfar, F., Mohajeri, A.H., (2017). "Response amplification factors and dynamic behavior of tube and outrigger systems of tall buildings on flexible soil," *Journal of Amirkabir University of Technology*, 49 (4): 723-732 (In Persian with English abstract).
77. Shafiei Varzaneh, M., Behnamfar, F. (2017) "Effect of opening on the lateral behavior of masonry walls with and without concrete ties," *Sharif Science & Research Journal, Sharif University of Technology* (In Persian with English abstract).
78. Behnamfar, F., Nooraei, M., Talebi Velni, M., (2017). "A three-step method for earthquake record selection for dynamic analysis of structures," *Journal of Amirkabir University of Technology*, 49 (1): 127-138 (In Persian with English abstract).
79. Ghandil, M., Behnamfar, F. (2017). "Ductility demands of MRF structures on soft soils considering soil-structure interaction," *Soil Dynamics and Earthquake Engineering*, 92, 203-214, Jan. 2017.
80. Jahangiri, A., Behnamfar, F. and Jahangiri, M. (2016). "Introducing the innovative post-tensioned connection with the rigid steel node," *KSCE Journal of Civil Engineering*, 21(4): 1247-1255.
81. Behnamfar, F., Artoonian, R., Ghandil, M. (2016). "Nonlinear modelling and seismic behavior of precast concrete structures with steel shear walls," *Bulletin of the New Zealand Society for Earthquake Engineering*, 49 (4), 293-304, Dec. 2016.
82. Behnamfar, F., Moghtaderi-Esfahani, A., Nikbakht, R., Ghandil, M. (2016). "Analysis of structural vibrations due to passage of underground trains," *International Journal of Engineering*, 29 (6), 742-751, June 2016.
83. Rajabipour, A., Behnamfar, F. (2016). "A fire ignition model and its application for estimating loss due to damage of the urban gas network in an earthquake," *International Journal of Engineering*, 29 (11), 1507-1519, Nov. 2016.
84. Behnamfar, F., Sayyadpour, H. (2016). "The near-field method: a modified equivalent linear method for dynamic soil-structure interaction analysis. Part I: Theory and methodology," *Bulletin of Earthquake Engineering*, 14 (8), 2361-2384, Aug. 2016.
85. Sayyadpour, H., Behnamfar, F., El Naggar, M.H. (2016). "The near-field method: a modified equivalent linear method for dynamic soil-structure interaction analysis. Part II: Verification and example application," *Bulletin of Earthquake Engineering*, 14 (8), 2385-2404, Aug. 2016.
86. Behnamfar, F., Taherian, S.M., Sahraei, A. (2016). "Enhanced nonlinear static analysis with the drift pushover procedure for tall buildings," *Bulletin of Earthquake Engineering*, 14 (11), 3025-3046, Nov. 2016.
87. Kermani, H., Behnamfar, F., Morsali, V. (2016). "Seismic Design of Steel Structures Based on Ductility," *International Journal of Engineering, Transactions A*, Vol. 29, No. 1.

88. Behnamfar, F., Fathollahi, A. (2016). "Conversion Factors for Design Spectral Accelerations Including Soil-Structure Interaction," *Bulletin of Earthquake Engineering*, 14 (10), 2731-2755, Oct. 2016.
89. Fazeli, E., Behnamfar, F. (2016). "Material and Geometrical Nonlinear Analysis of Structures Using Improved Applied Element Method (IAEM)," *Numerical Methods in Engineering*, 35 (1), 65-81, Summer 2016 (In Persian with English abstract).
90. Behnamfar, F., Alibabaei, H. (2016). "Classical and non-classical time history and spectrum analysis of soil-structure interaction system," *Bulletin of Earthquake Engineering*, 14 (10), 2731-2755, Oct. 2016.
91. Behnamfar, F., Dorafshan, S., Taheri, A., Hashemi, B.H. (2016). "A method for rapid estimation of dynamic coupling and spectral responses of connected adjacent structures," *The Structural Design of Tall and Special Buildings*, 25 (3), 605-625, Mar. 2016.
92. Zibasokhan, H., Behnamfar, F., Behfarnia, K. (2016). "The new proposed details for moment resisting connections of steel beam to continuous concrete column," *Advances in Structural Engineering*, 19 (1), 156-169, Mar. 2016.
93. Ghandil, M., Behnamfar, F., Vafaeian, M. (2016). "Dynamic responses of structure-soil-structure systems with an extension of the equivalent linear soil modeling," *Soil Dynamics and Earthquake Engineering*, 80, 149-162.
94. Banisheikholeslami, A., Behnamfar, F., Ghandil, M. (2016). "A beam-to-column connection with visco-elastic and hysteretic dampers for seismic damage control," *Journal of Constructional Steel Research*, 117, 185-195.
95. Behnamfar, F., Banizadeh, M. (2016). "Effects of soil-structure interaction on distribution of seismic vulnerability in RC structures," *Soil Dynamics and Earthquake Engineering*, 80, 73-86.
96. Behnamfar, F., Alibabaei, H. (2015). "Correction factors including nonclassical nature of soil-structure interaction spectral analysis," *Journal of Seismology and Earthquake Engineering*, 17(3), 193-201, Mar. 2015.
97. Behnamfar, F., Rafizadeh, H., Omid, M. (2015). "Innovative connections for precast concrete moment resisting frames," *Bulletin of the New Zealand Society for Earthquake Engineering*, 48, 3, 204-220.
98. Abbasi, H., Behnamfar, F., Fathollahi, A. (2015). "Dynamic analysis of soil-structure interaction using the neural networks and the support vector machines," *Expert Systems with Applications*, 42, 8971-8981.
99. Madani, B., Behnamfar, F., Tajmir Riahi, H. (2015). "Dynamic response of structures subjected to pounding and structure-soil-structure interaction," *Soil Dynamics and Earthquake Engineering*, 78, pp 46-60.
100. Omid, M., Behnamfar, F. (2015). "A numerical model for simulation of RC beam-column connections," *Engineering Structures*, 88, 51-73.
101. Ghandil, M., Behnamfar, F. (2015) "The near-field method for dynamic analysis of structures on soft soils including inelastic soil-structure interaction," *Soil Dynamics and Earthquake Engineering*, 75, 1-17.
102. Saberi, M., Behnamfar, F., Vafaeian, M. (2015). "A Continuum Shell-beam Finite Element Modeling of Buried Pipes with 90-degree Elbow Subjected to Earthquake Excitations," *International Journal of Engineering, Transactions C: Aspects*, 28, 3, 338-349.

103. Behnamfar, F., Shahgholian, R. (2015) "A Comparative Study and Proposal for Enhancement of Rapid Seismic Evaluation of Masonry Buildings," Sharif Science & Research Journal, Sharif University of Technology, 31-2 (3/1), 93-103, Fall 2015 (In Persian with English abstract).
104. Forooghi, H., Behnamfar, F., Madani, B. (2014) "Case study for evaluation of dynamic characteristics of adjacent buildings," Journal of Amirkabir University of Technology, 48 (3), 291-299, Fall 2016 (In Persian with English abstract).
105. Sahraei A., Behnamfar, F. (2014) "A drift pushover analysis procedure for estimating seismic demands of buildings," Earthquake Spectra, 30, 4, 1601–1618.
106. Javaheri-Tafti, M.R., Ronagh, H.R., Behnamfar, F., Memarzadeh, P. (2014) "An experimental investigation on the seismic behavior of cold-formed steel walls sheathed by thin steel plates," Thin-Walled Structures, 80, 66–79.
107. Behnamfar, F., Bahmanzad, A. (2014), "Behavior of the Iranian Code-Based Moment Resisting Steel Structures under Near-Field Earthquakes: Proposing a Modified Design Drift," Sharif Science & Research Journal, Sharif University of Technology, Vol. 2-29, No. 4, pp 3-15. (In Persian with English abstract).
108. Sharif, V., Behnamfar, F. (2013) "Evaluating the effects of near-field earthquakes on the behavior of moment resisting frames," Journal of Computational Methods in Civil Engineering, Vol. 3, No. 2, pp 79-91.
109. Saberi, M., Behnamfar, F., Vafaeian, M. (2013) "A semi-analytical model for estimating seismic behavior of buried steel pipes at bend point under propagating waves," Bulletin of Earthquake Engineering, Vol. 11, pp 1373-1402.
110. Najjarzadegan, I., Behnamfar, F. (2013) "Comparison of explicit and implicit integration methods in hybrid simulation using iterative numerical operations on substructures" Sharif Science & Research Journal, Sharif University of Technology, Vol. 2-30, No. 2-4, pp 43-51 (In Persian with English abstract).
111. Dorafshan, S., Behnamfar, F., Khamesipour, A., Motosaka, M. (2013) "The condensed hyperelements method of non-vertical consistent boundaries for wave propagation analysis in irregular media," Earthquake Engineering and Engineering Vibration, Vol. 12, No. 4, pp 547-559.
112. Behnamfar, F., Afshari, M. (2013), "Collapse Analysis and Strengthening of Stone Arch Bridges Against Earthquake," International Journal of Architectural Heritage: Conservation, Analysis, and Restoration, Volume 7, Issue 1, 2013, pages 1-25.
113. Varasteh, A., Behnamfar, F., Salimi M. (2012), "Assessment of the Conventional Control Algorithms and Proposing a Modified Displacement Feedback Control for Performance-Based Design of Structures," Journal of Computational Methods in Civil Engineering, Vol. 3, 1 (2012) 35-50.
114. Berahman, F., Behnamfar, F. (2009), "Probabilistic seismic demand model and fragility estimates for critical failure modes of un-anchored steel storage tanks in petroleum complexes," Journal of the Probabilistic Engineering Mechanics, Vol. 24, Issue 4, pp 527-536, Oct. 2009.
115. Hashemi, B. H., Behnamfar, F., and Ranjbaran, F. (2008), "Effects of local eccentricity of connecting braces on nonlinear behavior of steel concentric brace connections," Journal of Seismology & Earthquake Engineering, Summer 2008, Vol. 10, No. 2, pp. 91-99.

116. Berahman F. & Behnamfar F. (2007), "Seismic fragility curves for un-anchored on-grade steel storage tanks: Bayesian approach," *Journal of Earthquake Engineering*, Imperial College, London, Vol. 11, No. 2, Mar. 2007.
117. Hashemi, B.H., Behnamfar, F., Gharibzadeh, A. (2005), "Performance evaluation of highly important steel moment resisting structures using the Seismic Evaluation Instructions," *Research Letters of Seismology and Earthquake Engineering*, Vol. 8, No. 2-3 (In Persian with English abstract).
118. Hosseinzadeh, N.A., Nateghi-Elahi, F., Behnamfar, F. (2003), "Shake Table Studies on the Soil-Structure Effects in Seismic Response of Adjacent Structures," *Esteghlal Journal*, Isfahan University of Technology, Vol. 22, No. 2 (In Persian with English abstract).
119. Nateghi-Elahi, F., Tabrizi, A.R., Behnamfar, F. (2003), "Study on the Soil-Structure Interaction Effects on the Nonlinear Response of Tall Buildings," *Journal of Ferdowsi University*, Vol. 15, No. 1 (In Persian with English abstract).
120. Behnamfar, F. & Sugimura, Y. (1999), "Dynamic Response of Adjacent Structures Under Spatially Deterministic and Random Propagation of Seismic Waves," *Journal of the Probabilistic Engineering Mechanics*, Vol. 14, No. 1-2, pp 33-44, Oct. '99.
121. Behnamfar, F. & Sugimura, Y. (1998), "Cross-Interaction of Surface and Embedded Structures Subject to Spatial variation of Ground Motion," *Journal of Structural and Construction Engineering*, Trans. of AIJ, Japan, No. 507, pp 69-76, May '98.

## **2) Conference proceedings:**

1. Mehrbod A., Behnamfar F., Aziminejad A., Hashemol Hosseini H. (2024). "Fragility curves of stone bridges using nonlinear dynamic analysis with the discrete element method", 18th World Conference on Earthquake Engineering, WCEE2024, July 2024, Milan, Italy.
2. Mehrbod A., Behnamfar F. (2024). "Determining probability of seismic failure of stone arch bridges and sensitivity analysis of mechanical properties of the materials", 14th National Congress on Civil Engineering, May 2024, University of Zanjan, Iran.
3. Farazmand M., Behnamfar F. (2024). "Seismic behavior of braced steel structures under concurrent components of near-field earthquakes considering nonlinear soil-structure interaction", 14th National Congress on Civil Engineering, May 2024, University of Zanjan, Iran.
4. Gohari A.M., Behnamfar F. (2024). "Seismic performance evaluation of steel structures equipped with yielding pure bending damper regarding residual displacements of stories", 9<sup>th</sup> International Conference on Seismology and Earthquake Engineering (SEE9), May 2024, Tehran, Iran.
5. Aghliani M., Behnamfar F. (2024). "Seismic behavior of yielding pure bending damper under concurrent in-plane and out-of-plane loading", 9<sup>th</sup> International Conference on Seismology and Earthquake Engineering (SEE9), May 2024, Tehran, Iran.
6. Koopaiezadeh J., Behnamfar F., Javaheri Tafti M.R. (2023). "Experimental evaluation of cyclic behavior of a precast concrete frame equipped with steel shear wall", 13th International Congress on Civil Engineering, May 2023, Iran University of Science and Technology, Tehran, Iran.

7. Almohammad-albakkar M., Behnamfar F. (2023). "Seismic performance assessment of cross-braced steel frame equipped with new damper", 13th International Congress on Civil Engineering, May 2023, Iran University of Science and Technology, Tehran, Iran.
8. Almohammad-albakkar M., Behnamfar F. (2023). "Experimental evaluation of grooved gusset plate damper for cross-braced steel frames", 12<sup>th</sup> National Conference of Structure and Steel, Dec. 2023, Tehran, Iran.
9. Ahmadi A., Behnamfar F. (2022). "Seismic performance of steel structures equipped with the pure bending yielding damper", 13th National Congress on Civil Engineering, May 2022, Isfahan University of Technology, Iran.
10. Mostafaei H., Behnamfar F. (2021), "The effects of fluid-structure interaction on the stability of an arch dam abutment", 12th International Congress on Civil Engineering, 12-14 July 2021, Ferdowsi University of Mashhad, Mashhad, Iran.
11. Habibi Y.M., Behnamfar F. (2020). "Collapse analysis of torsional moment frame structures under earthquake", 12<sup>th</sup> National Congress of Civil Engineering, May 2020, Sahand University of Technology, Tabriz.
12. Khan Modarres S., Behnamfar F. (2020). "Use of middle gusset plate of concentric brace as a seismic fuse", 12<sup>th</sup> National Congress of Civil Engineering, May 2020, Sahand University of Technology, Tabriz.
13. Soltanabadi R., Mamazizi A., Behnamfar F. (2019). "Evaluating the seismic performance of Chevron braced frames accommodated with viscoplastic dampers," 10<sup>th</sup> National Conference on Steel & Structure, 10-11 Dec., Tehran, Iran.
14. Arman S., Behnamfar, F. (2018). "Enhancing ductility of X-braced frames by addition of circular steel members," 11<sup>th</sup> International Congress on Civil Engineering, 8-10 May, University of Tehran, Tehran, Iran.
15. Sheikh Bahaei, P., Behnamfar, F. (2018). "Comparative study of dynamic response of ECC and ordinary concrete cylindrical water storage tanks," 11<sup>th</sup> International Congress on Civil Engineering, 8-10 May, University of Tehran, Tehran, Iran.
16. Soltanabadi, R., Behnamfar, F. (2018). "Analytical study of steel moment connections accommodated with viscoplastic dampers for seismic damage control," 8<sup>th</sup> National Conference on Steel and Structure, 30-31 January, Tehran, Iran.
17. Abbasnia, H., Behnamfar, F. (2017), "A macromodel for simulation of cyclic behavior of concrete connections," 10<sup>th</sup> National Congress of Civil Engineering, 20 & 21 April, Sharif University of Technology, Tehran, Iran.
18. Farahani, D., Behnamfar, F. (2017), "Study of pounding in torsional adjacent structures," 10<sup>th</sup> National Congress of Civil Engineering, 20 & 21 April, Sharif University of Technology, Tehran, Iran.
19. Sabet Rasekh, M., Behnamfar, F. (2017), "Displacement-based design of structures considering bi-directional torsional irregularity," 10<sup>th</sup> National Congress of Civil Engineering, 20 & 21 April, Sharif University of Technology, Tehran, Iran.
20. Farahanchi Baradaran, M., Behnamfar, F. (2016), "Seismic design of steel structures based on ductility level," 9<sup>th</sup> National Congress of Civil Engineering, 11 & 12 May, Ferdowsi University of Mashhad, Mashhad, Iran.
21. Behnamfar, F., Moradi, R. (2016), "Dynamic behavior of concrete cylindrical storage tanks and a specific mechanical model," 9<sup>th</sup> National Congress of Civil Engineering, 11 & 12 May, Ferdowsi University of Mashhad, Mashhad, Iran.

22. Behnamfar, F. & Banizadeh, M. (2015), "Effect of inelastic soil structure interaction on distribution of seismic vulnerability in special moment frame RC structures," 10<sup>th</sup> International Congress on Civil Engineering, 5-7 May 2015, University of Tabriz, Tabriz, Iran.
23. Heydari, M. & Behnamfar, F. (2015), "A macro-model for nonlinear dynamic analysis of 3D RC shear walls and comparison with the finite elements method," 10<sup>th</sup> International Congress on Civil Engineering, 5-7 May 2015, University of Tabriz, Tabriz, Iran.
24. Behnamfar, F. & Alibabaei, H. (2015), "Correction factors including nonclassical nature of soil-structure interaction spectral analysis," 7<sup>th</sup> International Conference on Earthquake Engineering and Seismology, 18-21 May 2015, Tehran, Iran.
25. Behnamfar, F. & Talebi, M. (2015), "An effective method for selection and modification of ground motions for dynamic time history analysis," 7<sup>th</sup> International Conference on Earthquake Engineering and Seismology, 18-21 May 2015, Tehran, Iran.
26. Behnamfar, F. & Madani, B. (2014), "Effects of mutual cross interaction and pounding on nonlinear seismic response of adjacent buildings," Second European Conference on Earthquake Engineering and Seismology, August 2014, Istanbul, Turkey.
27. Behnamfar, F. & Talebi, M. (2014), "An Effective Method for Selection and Modification of Ground Motion for Dynamic Time History Analysis," Second European Conference on Earthquake Engineering and Seismology, August 2014, Istanbul, Turkey.
28. Haghollahi, S. & Behnamfar, F. (2013), "Performance evaluation of special RC moment frames considering soil-structure interaction," 4<sup>th</sup> International Conference on Concrete and Development, May 2013, Tehran, Iran.
29. Behnamfar, F. & Yazdabad, M. (2013) "Seismic behavior of concrete cylindrical storage tanks," 4<sup>th</sup> International Conference on Concrete and Development, May 2013, Tehran, Iran.
30. Behnamfar, F. & Afshari, M. (2013) "Seismic analysis of stone arch bridges collapsing under earthquake," 3<sup>rd</sup> International Conference on Recent Advances in Railway Engineering (ICRARE-2013), May 2013, Tehran, Iran.
31. Behnamfar, F. & Nikbakht, R. (2013) "Structural Response Spectra under Passing Underground Trains," 3<sup>rd</sup> International Conference on Recent Advances in Railway Engineering (ICRARE-2013), May 2013, Tehran, Iran.
32. Behnamfar, F. & Haghollahi, S. (2012), "Collapse Performance Evaluation of Reinforced Concrete Special Moment Frame Systems," 15WCEE, 24-28 September 2012, Lisboa, Portugal.
33. Sheikholeslami, A.B. & Behnamfar, F. (2012), "Seismic Behavior of New Visco Plastic Device Equipped with Steel cores and Viscoelastic Solid," 15WCEE, 24-28 September 2012, Lisboa, Portugal.
34. Nooraie, M. & Behnamfar, F. (2012), "A new procedure for selection and modification of strong ground motion for nonlinear dynamic analysis," 15WCEE, 24-28 September 2012, Lisboa, Portugal.
35. Behnamfar, F. & Nikbakht, R. (2011), "Assessment Spectra for Structures subject to Passing Underground Trains," PROTECT2011, August 30 – September 1, 2011, Lugano, Switzerland.
36. Behnamfar, F., Sahraei, A. (2011), "Proposing drift pushover analysis as an alternative for current nonlinear static seismic evaluation procedures," 6<sup>th</sup> International

Conference on Seismology and Earthquake Engineering (SEE6), 16-18 May 2011, Tehran, Iran, paper 10335.

37. Behnamfar, F., Pezeshki, A. (2011), "Damage-based seismic design of moment-resisting frames," 6<sup>th</sup> International Conference on Seismology and Earthquake Engineering (SEE6), 16-18 May 2011, Tehran, Iran, paper 10350.

38. Pezeshki A. & Behnamfar, F. (2010), "Seismic design of multi story buildings. I: Basis of acceptable story damage," 14<sup>th</sup> European Conference on Earthquake Engineering, Ohrid, Macedonia, August 30-September 3, 2010.

39. Pezeshki A. & Behnamfar, F. (2010), "Seismic design of multi story buildings. II: Member damage control," 14<sup>th</sup> European Conference on Earthquake Engineering, Ohrid, Macedonia, August 30-September 3, 2010.

40. Berahman F. & Behnamfar F. (2010), "Probabilistic demand model and fragility estimates for critical failure mode of un-anchored steel storage tanks," 9th US National and 10th Canadian Conference on Earthquake Engineering, Toronto, Canada, July 2010.

41. Behnamfar F. & Rajabipour A. (2008), "Probabilistic estimation of fire spreading following an earthquake due to gas pipeline damage," 14WCEE, Beijing, China, Oct. 2008.

42. Berahman F. & Behnamfar F. (2008), "Fragility estimates for un-anchored on-grade steel storage tanks," 14WCEE, Beijing, China, Oct. 2008.

43. Nateghi-Elahi F., Rezaei-Tabrizi A., & Behnamfar F. (2006), "Structure-Soil-Structure Effects on Nonlinear Dynamic Response of Tall Buildings," ECEES, Swiss, September 2006.

44. Behnamfar, F. & Fazeli, E. (2005), "Performance of old stone arch railway bridges under dead, live and seismic loading: a case study," Conmat05, Vancouver, Canada.

45. Hosseini M., Behnamfar F. & Ghafurian S. I. (2002), "A Study on the Seismic Behavior of Tehran Tele-Communication Tower Considering Site Effects," 12ECEE, London, England, August 2002.

46. Behnamfar, F. & Mohajeri A. H. (2001), "A Study on the Dynamic Behavior of Tube or Outrigger-Brace Buildings on Different Soils," SDEE2001, Philadelphia, USA, 2001.

47. Behnamfar, F. (2000), "Survey and Classification of Lifeline Damages in Great Earthquakes of the Last Decade," Proceedings of the Second Japan-Iran Workshop on Earthquake Engineering and Disaster Mitigation, Kobe, Japan, November 2000.

48. Behnamfar, F. & Sugimura, Y. (2000), "Response Analysis of Adjacent Structures and Comparison with Recorded Data," Proceedings of 12WCEE, New Zealand, February 2000.

49. Behnamfar, F. & Sugimura, Y. (1999), "An Investigation on the Importance of Rotational Input of Seismic Ground Motion for Buildings," Proc. of the 3<sup>rd</sup> International Conf. on Earthquake Engineering & Seismology (SEE3), Vol. II, pp 701-710, Tehran, Iran, May '99.

50. Behnamfar, F. & Sugimura, Y. (1997), "Effects of Random Spatial Variation of Shear and Rayleigh Waves on the Lateral Response of Structures," Proc. of Annual Conf. of AIJ, Sep. '97, Tokyo, Japan.

51. Behnamfar, F. & Sugimura, Y. (1997), "Cross-Interaction of Structures Subject to Deterministic and Random Wave Fields," Proc. of 8<sup>th</sup> International Conf. on Soil Dynamics and Earthquake Engineering (SDEE'97), July '97, Istanbul, Turkey.

52. Behnamfar, F. & Sugimura, Y. (1997), "On the Dynamic Response of Two Adjacent Embedded Foundations," Proc. of Annual Conf. of Japan Geotechnical Society, July '97, Kumamoto, Japan.
53. Behnamfar, F. & Sugimura, Y. (1997), "Lateral Response of Structures Resting on Flexible Soils Under Shear and Rayleigh Waves," Proc. of Regional Conf. of AIJ, June '97, Sendai, Japan.
54. Behnamfar, F., Sugimura, Y. & Tobita, J. (1996), "Dynamic Response and Cross-Interaction of 2-D Surface Foundations for SH waves," Proc. of Annual Conf. of Architectural Institute of Japan (AIJ), Sep. '96, Kyoto, Japan.
55. Behnamfar, F. & Kurita, S. (1996), "Comparison Between Effects of Body and Surface Waves on Torsionally Coupled Soil-Structure Systems," Proc. of 11WCEE, June '96, Acapulco, Mexico.