CURRICULUM VITAE

Short Biography



Naser Khaji's background in Japan began in 1998, when he began his Ph.D. at the Department of Civil Engineering at the University of Tokyo. In 2019, he returned to Japan to begin a new career at Hiroshima University (HU). He received his B.Eng. and M.Eng. degrees from the University of Tehran (Iran) and Tarbiat Modares University (Iran) in 1995 and 1998, respectively. After graduating from the University of Tokyo in 2001, he joined Tarbiat Modares University (TMU) and was promoted to full professor in 2013. His research interests include infrastructure management, health monitoring of various infrastructures, soil-structure-fluid interaction, computational structural dynamics, seismic wave propagation, inverse problems in structural dynamics and earthquake engineering, numerical methods in computational mechanics, and seismic hazard analysis.

Academic Leadership and Services

2019-Present	Principal Investigator of Infrastructure Management Laboratory (HU)
2021-2023	Member of the sub-committee of international affairs, the committee of theoretical and applied mechanics, Science Council of Japan
2017-2018	Dean of faculty of civil and environmental engineering (TMU)
2017-2018	Member of the council of the university (TMU)
2017-2018	Representative of the Iranian Ministry of Science, Research, and Technology in the national committee of seismometer and accelerometer networks
2009-2018	Member of the International Affairs Council of the university (TMU)
2017	Ranking reviewer of two national scientific research journals for the Iranian Ministry of Science, Research, and Technology
2009-2017	Director of international scientific collaborations of the university (TMU)
2009-2013	Head of the department of earthquake engineering (TMU)
2014-2018	Reviewer for promotion of academic staff in several universities in Iran
2013-Present	Reviewer and reader of various post-doctoral proposals, research plans, and authored books for several universities in Iran
2010-2019	Representative of TMU on the board of trustees of national and international congresses in civil engineering
2015	Member of the scientific committee of the 7th International Conference on Seismology and Earthquake Engineering
2006	Member of the executive committee of the 7th International Congress on Civil Engineering
2002-2003	Director of the computer center of the department of civil engineering (TMU)

Professional Membership

- Japan society of civil engineers (JSCE), Japan
- Iranian association of earthquake engineering (IAEE), Iran
- Iranian association of bridge engineering (IABE), Iran

Research Interests

- Infrastructure management
- Computational structural dynamics

- Seismic wave propagation
- Inverse problems in structural dynamics and earthquake engineering
- Numerical methods in computational mechanics (finite element method, boundary element method, discrete element method)
- Health monitoring of various infrastructures
- Soil-structure-fluid interaction
- Seismic hazard analysis

Selected Publications

Authored books

1. Khaji, N. 2013. Principles of Engineering Seismology and Seismic Hazard Analysis. Tarbiat Modares University Press, Tehran, Iran (*in Persian*). ISBN: 978-600-5394-82-5
2. Khaji, N. 2017. Principles of Engineering Seismology and Seismic Hazard Analysis. Tarbiat Modares University Press, Tehran, Iran (*in Persian*). ISBN: 978-600-5394-82-5 (2nd Edition)
3. Khaji, N. 2020. Principles of Engineering Seismology and Seismic Hazard Analysis. Tarbiat Modares University Press, Tehran, Iran (*in Persian*). ISBN: 978-600-5394-82-5 (3rd Edition)

Refereed international journal papers

1. Khaji N, Ahmadi MT, 2002. An efficient method for dam-reservoir seismic interaction analysis. Amirkabir (Journal of Science and Technology), 13(50), 86–94. (SCOPUS indexed)
2. Tarinejad R, Ahmadi MT, Khaji N, 2007. Analysis of topographic amplification effects on canyon sites using 3D boundary element method. Journal of Seismology and Earthquake Engineering, 9(1), 25–37.
3. Mehrjoo M, Khaji N, Moharrami H, Bahreininejad A, 2008. Damage detection of truss bridge joints using artificial neural networks. Expert Systems with Applications, 35(3), 1122–1131. (SCI & SCOPUS indexed)
4. Shekari MR, Khaji N, Ahmadi MT, 2009. A coupled BE–FE study for evaluation of seismically isolated cylindrical liquid storage tanks considering fluid–structure interaction. Journal of Fluids and Structures, 25(3), 567–585. (SCI & SCOPUS indexed)
5. Balideh S, Goshtasbi K, Aghababaei H, Khaji N, Merzai H, 2009. Seismic analysis of underground spaces to propagation of seismic waves (case study: Masjed Soleiman dam cavern). Journal of Applied Sciences, 9(9), 1615–1627. (SCOPUS indexed)
6. Gharighoran A, Daneshjoo F, Khaji N, 2009. Use of Ritz method for damage detection of reinforced and post-tensioned concrete beams. Construction and Building Materials, 23(6), 2167–2176. (SCI & SCOPUS indexed)
7. Khaji N, Habibi M, Mirhashemian P, 2009. Modeling transient elastodynamic problems using spectral element method. Asian Journal of Civil Engineering, 10(4), 361–380. (SCOPUS indexed)
8. Khaji N, Shafiei M, Jalalpour M, 2009. Closed-form solutions for crack detection problem of Timoshenko beams with various boundary conditions. International Journal of Mechanical Sciences, 51(9-10), 667–681. (SCI & SCOPUS indexed)
9. Mirhashemian P, Khaji N, Shakib H, 2009. Soil-structure interaction (SSI) analysis using a hybrid spectral element/finite element (SE/FE) approach. Journal of Seismology and Earthquake Engineering, 11(2), 83–95.
10. Shekari MR, Khaji N, Ahmadi MT, 2010. On the seismic behavior of cylindrical base-isolated liquid storage tanks excited by long-period ground motions. Soil Dynamics and Earthquake Engineering, 30(10), 968–980. (SCI & SCOPUS indexed)
11. Karimi I, Khaji N, Ahmadi MT, Mirzayee M, 2010. System identification of concrete gravity dams using artificial neural networks based on a hybrid FE-BE approach. Engineering Structures, 32(11), 3583–3591. (SCI & SCOPUS indexed)

12. Hamzeh Javaran S, Khaji N, Moharrami, H, 2011. A dual reciprocity BEM approach using new Fourier radial basis functions applied to 2D elastodynamic transient analysis. Engineering Analysis with Boundary Elements, 35(1), 85–95. (SCI & SCOPUS indexed)
13. Khanmirza E, Khaji N, Johari Majd V, 2011. Model updating of multistory shear buildings for simultaneous identification of mass, stiffness and damping matrices using two different soft-computing methods. Expert Systems with Applications, 38(5), 5320–5329. (SCI & SCOPUS indexed)
14. Khaji N, Khodakarami MI, 2011. A new semi-analytical method with diagonal coefficient matrices for potential problems. Engineering Analysis with Boundary Elements, 35(6), 845–854. (SCI & SCOPUS indexed)
15. Hamzeh Javaran S, Khaji N, Noorzad, A, 2011. First kind Bessel function (J-Bessel) as radial basis function for plane dynamic analysis using dual reciprocity boundary element method. Acta Mechanica, 218(3–4), 247–258. (SCI & SCOPUS indexed)
16. Shafiee M, Khaji N, 2011. Analytical solutions for free and forced vibrations of a multiple cracked Timoshenko beam subject to a concentrated moving load. Acta Mechanica, 221(1–2), 79–97. (SCI & SCOPUS indexed)
17. Mirzayee M, Khaji N, Ahmadi MT, 2011. A hybrid distinct element–boundary element approach for seismic analysis of cracked concrete gravity dam–reservoir systems. Soil Dynamics and Earthquake Engineering, 31(10), 1347–1356. (SCI & SCOPUS indexed)
18. Khodakarami MI, Khaji N, 2011. Analysis of elastostatic problems using a semi-analytical method with diagonal coefficient matrices. Engineering Analysis with Boundary Elements, 35(12), 1288–1296. (SCI & SCOPUS indexed)
19. Dehghani E, Daneshjoo F, Aghakouchak AA, Khaji N, 2012. A new bond-slip model for adhesive in CFRP-steel composite systems. Engineering Structures, 34(1), 447–454. (SCI & SCOPUS indexed)
20. Soghrat MR, Khaji N, Zafarani H, 2012. Simulation of strong ground motion in northern Iran using the specific barrier model. Geophysical Journal International, 188(2), 645–679. (SCI & SCOPUS indexed)
21. Khodakarami MI, Khaji N, Ahmadi MT, 2012. Modeling transient elastodynamic problems using a novel semi-analytical method yielding decoupled partial differential equations. Computer Methods in Applied Mechanics and Engineering, 213(1), 183–195. (SCI & SCOPUS indexed)
22. Khaji N, Kazemi Noureini H, 2012. Detection of a through-thickness crack based on elastic wave scattering in plates, Part I: Forward Solution. Asian Journal of Civil Engineering, 13(3), 301–318. (SCOPUS indexed)
23. Kazemi Noureini H, Khaji N, 2012. Detection of a through-thickness crack based on elastic wave scattering in plates, Part II: Inverse Solution. Asian Journal of Civil Engineering, 13(4), 431–454. (SCOPUS indexed)
24. Khaji N, Khodakarami MI, 2012. A semi-analytical method with a system of decoupled ordinary differential equations for three-dimensional elastostatic problems. International Journal of Solids and Structures, 49(18), 2528–2546. (SCI & SCOPUS indexed)
25. Mehrjoo M, Khaji N, Ghafory-Ashtiany M, 2013. Application of genetic algorithm in crack detection of beam-like structures using a new cracked Euler–Bernoulli beam element. Applied Soft Computing, 13(2), 867–880. (SCI & SCOPUS indexed)
26. Khaji N, Hamzehei Javaran S, 2013. New complex Fourier shape functions for the analysis of two-dimensional potential problems using boundary element method. Engineering Analysis with Boundary Elements, 37(2), 260–272. (SCI & SCOPUS indexed)
27. Khaji N, Mirzajani M, 2013. Frequency domain analysis of elastic bounded domains using a new semi-analytical method. Acta Mechanica, 224(7), 1555–1570. (SCI & SCOPUS indexed)
28. Peimani M, Yazdanpanah MJ, Khaji N, 2013. Parameter estimation in hysteretic systems based on adaptive least-squares. Journal of Information Systems and Telecommunication, 1(4), 217-221. (SCOPUS indexed)

29. Dehghan Manshadi SH, Khaji N, Rahimian M, 2014. Cavity/inclusion detection in plane linear elastic bodies using linear sampling method. Journal of Nondestructive Evaluation, 33(1), 93–103. (SCI & SCOPUS indexed)
30. Khaji N, Mehrjoo M, 2014. Crack detection in a beam with an arbitrary number of transverse cracks using genetic algorithms. Journal of Mechanical Science and Technology, 28(3), 823–836. (SCI & SCOPUS indexed)
31. Mehrjoo M, Khaji N, Ghafory-Ashtiany M, 2014. New Timoshenko-cracked beam element and crack detection in beam-like structures using genetic algorithm. Inverse Problems in Science and Engineering, 22(3), 359–382. (SCI & SCOPUS indexed)
32. Shafiei M, Khaji N, 2014. Simulation of two-dimensional elastodynamic problems using a new adaptive physics-based method. Meccanica, 49(6), 1353–1366. (SCI & SCOPUS indexed)
33. Hamzehei Javaran S, Khaji N, 2014. Dynamic analysis of plane elasticity with new complex Fourier radial basis functions in the dual reciprocity boundary element method. Applied Mathematical Modelling, 38(14), 3641–3651. (SCI & SCOPUS indexed)
34. Dehghan Manshadi SH, Khaji N, 2014. Cavity detection in a heat conductor using linear sampling method. Heat and Mass Transfer, 50(7), 973–984. (SCI & SCOPUS indexed)
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40. Moghadaszadeh SO, Khaji N, 2015. Development and application of a semi-analytical method with diagonal coefficient matrices for analysis of wave diffraction around vertical cylinders of arbitrary cross-sections. Ocean Engineering, 110, 292–302. (SCI & SCOPUS indexed)
41. Shafiei M, Khaji N, 2015. An adaptive physics-based method for the solution of one-dimensional wave motion problems. Civil Engineering Infrastructures Journal, 48(2), 217–234. (SCI & SCOPUS indexed)
42. Mirzajani M, Khaji N, Khodakarami MI, 2016. A new global nonreflecting boundary condition with diagonal coefficient matrices for analysis of unbounded media. Applied Mathematical Modelling, 40(4), 2845–2874. (SCI & SCOPUS indexed)
43. Khaji N, Yazdani M, 2016. Determination of stress intensity factors of 2D fracture mechanics problems through a new semi-analytical method. Fatigue & Fracture of Engineering Materials & Structures, 39(4), 467–478. (SCI & SCOPUS indexed)
44. Zakian P, Khaji N, 2016. A novel stochastic-spectral finite element method for analysis of elastodynamic problems in the time domain. Meccanica, 51(4), 893–920. (SCI & SCOPUS indexed)
45. Peimani M, Yazdanpanah MJ, Khaji N, 2016. Adaptive dynamic surface control of Bouc–Wen hysteretic systems. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 138(9), 091007 (7 pages). (SCI & SCOPUS indexed)

46. Zakian P, Khaji N, 2016. Spectral finite element simulation of seismic wave propagation and fault dislocation in elastic media. Asian Journal of Civil Engineering, 17(8), 1189–1213. (SCOPUS indexed)
47. Yazdani M, Khaji N, Khodakarami MI, 2016. Development of a new semi-analytical method in fracture mechanics problems based on energy release rate. Acta Mechanica, 227(12), 3529–3547. (SCI & SCOPUS indexed)
48. Zakian P, Khaji N, Kaveh A, 2017. Graph theoretical methods for efficient stochastic finite element analysis of regular structures. Computers and Structures, 178, 29–46. (SCI & SCOPUS indexed)
49. Fekrazadeh S, Khaji N, 2017. An analytical method for crack detection of Timoshenko beams with multiple open cracks using a test mass. European Journal of Environmental and Civil Engineering, 21(1), 24–41. (SCI & SCOPUS indexed)
50. Khaji N, Rezaei MH, 2017. Modification of specific barrier model using new time functions for inclined fault. Journal of Seismology and Earthquake Engineering, 19(3), 189–205.
51. Zakian P, Khaji N, Soltani M, 2017. A Monte Carlo adapted finite element method for dislocation simulation of faults with uncertain geometry. Journal of Earth System Science, 126(7), 1–22. (SCI & SCOPUS indexed)
52. Khaji N, Zakian P, 2017. Uncertainty analysis of elastostatic problems incorporating a new hybrid stochastic-spectral finite element method. Mechanics of Advanced Materials and Structures, 24(12), 1030–1042. (SCI & SCOPUS indexed)
53. Livani MA, Khaji N, Zakian P, 2018. Identification of multiple flaws in 2D structures using dynamic extended spectral finite element method with a universally enhanced meta-heuristic optimizer. Structural and Multidisciplinary Optimization, 57(2), 605–623. (SCI & SCOPUS indexed)
54. Mirzajani M, Khaji N, Hori M, 2018. Stress wave propagation analysis in one-dimensional micropolar rods with variable cross-section using Micropolar Wave Finite Element Method. International Journal of Applied Mechanics, 10(4), 1850039 (28 pages). (SCI & SCOPUS indexed)
55. Yazdani M, Khaji N, 2018. Development of a new semianalytical approach for 2D analysis of crack propagation problems. Fatigue & Fracture of Engineering Materials & Structures, 41(6), 1344–1363. (SCI & SCOPUS indexed)
56. Mohtasebi M, Khaji N, 2018. An analytical method for crack detection of beams with uncertain boundary conditions by a concentrated test mass. Civil Engineering Journal, 4(7), 1629–1645. (SCI indexed)
57. Hamzehei Javaran S, Khaji N, 2018. Complex Fourier element shape functions for analysis of 2D static and transient dynamic problems using dual reciprocity boundary element method. Engineering Analysis with Boundary Elements, 95, 222–237. (SCI & SCOPUS indexed)
58. Zakian P, Khaji N, 2018. A stochastic spectral finite element method for wave propagation analyses with medium uncertainties. Applied Mathematical Modelling, 63, 84–108. (SCI & SCOPUS indexed)
59. Zakian, P, Khaji N, 2019. A stochastic spectral finite element method for solution of faulting-induced wave propagation in materially random continua without explicitly modeled discontinuities. Computational Mechanics, 64(4), 1017–1048. (SCI & SCOPUS indexed)
60. Bazrafshan A, Khaji N, 2020. Generation of synthetic accelerograms using a probabilistic critical excitation method based on energy constraint. Earthquake and Structures, 18(1), 45–56. (SCI & SCOPUS indexed)
61. Shafiei M, Khaji N, Eskandari-Ghadi M, 2020. An adaptive cellular automata approach with the use of radial basis functions for the simulation of elastic wave propagation. Acta Mechanica, 231(7), 2723–2740. (SCI & SCOPUS indexed)
62. Babaee R, Khaji N, 2020. Decoupled scaled boundary finite element method for analysing dam–reservoir dynamic interaction. International Journal of Computer Mathematics, 97(8), 1725–1743. (SCI & SCOPUS indexed)

63. Mirzajani M, Khaji N, Hori M, 2021. Wave propagation analysis of micropolar elastic beams using a novel micropolar wave finite element method. Mechanics of Advanced Materials and Structures, 28(6), 551–567. (SCI & SCOPUS indexed)
64. Mirzajani M, Khaji N, Hori M, 2021. Analysis of elastic pulse dispersion in periodically layered composite rods using Wave Finite Element Method. International Journal of Applied Mechanics, 13(5), 2150050 (25 pages). (SCI & SCOPUS indexed)
65. Kalantari M, Khaji N, Eskandari-Ghadi M, 2021. Rocking forced displacement of a rigid disc embedded in a functionally graded transversely isotropic half-space. Mathematics and Mechanics of Solids, 26(7), 1029–1052. (SCI & SCOPUS indexed)
66. Rezaei MH, Khaji N, Di Maio R, Emolo A, 2021. A modified Specific Barrier Model based on new time functions and approach for cracks location on the fault plane: Application to the 2008, Iwate-Miyagi earthquake. Geophysical Journal International, 227(1), 76–98. (SCI & SCOPUS indexed)
67. Forghani S, Khaji N, 2022. An anisotropic multi-scale method for slipping dislocations. International Journal of Plasticity, 148, 103130. (SCI & SCOPUS indexed)
68. Kalantari M, Khaji N, 2022. Displacement pattern in a functionally graded transversely isotropic, half-space due to dislocation. Numerical Methods in Civil Engineering, 7(2), 42–49.
69. Kalantari M, Khaji N, 2022. Torsion vibration of foundation in a functionally graded transversely isotropic, linearly elastic half-space. Forces in Mechanics, 7, 100082. (SCI & SCOPUS indexed)
70. Eskandari-Ghadi M, Shokrollahi M, Khaji N, 2022. Impedance functions of rigid rectangular foundations bonded on layered transversely isotropic elastic/poroelastic half-space. Engineering Analysis with Boundary Elements, 138, 423–438. (SCI & SCOPUS indexed)
71. Shokrollahi M, Eskandari-Ghadi M, Khaji N, 2022. A unified approach for stress wave propagation in transversely isotropic elastic and poroelastic layered media. Soil Dynamics and Earthquake Engineering, 157, 107152. (SCI & SCOPUS indexed)
72. Omidian P, Khaji N, 2022. A multi-objective optimization framework for seismic resilience enhancement of typical existing RC buildings. Journal of Building Engineering, 52, 104361. (SCI & SCOPUS indexed)
73. Babaee R, Jabbari E, Eskandari-Ghadi M, Khaji N, 2022. A new algorithm for shape parameter optimization in the multiquadric method for bending beam and elastic plane BVPs. Archive of Applied Mechanics, 92(11), 3109–3125. (SCI & SCOPUS indexed)
74. Matinfar M, Khaji N, Ahmadi G, 2023. Deep convolutional generative adversarial networks for generation of numerous artificial spectrum-compatible earthquake accelerograms using a limited number of ground motion records. Computer-Aided Civil and Infrastructure Engineering, 38(2) 225–240. (SCI & SCOPUS indexed)
75. Uenaga T, Omidian P, George R C, Mirzajani M, Khaji N, 2023. Seismic resilience assessment of curved reinforced concrete bridge piers through seismic fragility curves considering short- and long-period earthquakes, Sustainability, 15(10), 7764. (SCI & SCOPUS indexed)
76. Kalantari M, Khaji N, Eskandari-Ghadi M, Keawsawasvong S, 2023. Dynamic analysis of a vertically loaded rigid disc in a functionally graded transversely isotropic half-space. Transportation Infrastructure Geotechnology, 10(4), 660–684. (SCI & SCOPUS indexed)
77. Omidian P, Khaji N, 2023. A total life-cycle cost–resilience optimization framework for infrastructures management using different retrofit strategies. Sustainable and Resilient Infrastructure, 8(6), 675–698. (SCI & SCOPUS indexed)
78. Kalantari M, Khaji N, 2023. Response of rigid circular plate in a functionally graded transversely isotropic, half-space under horizontal steady-state excitation. Mechanics Based Design of Structures and Machines, 52(1), 102–125. (SCI & SCOPUS indexed)
79. Fakharzadeh Naeini E, Khaji N, Hori M. 2024. An unsplit-field viscoelastic complex-frequency-shifted perfectly matched layer for analysis of transient waves in heterogeneous media based on an efficient voxel element method. Soil Dynamics and Earthquake Engineering, 177, 108404. (SCI & SCOPUS indexed)

80. Omidian P, Khaji N, Aghakouchak AA, 2024. Seismic time-dependent resilience assessment of aging highway bridges incorporating the effect of retrofitting. Structures, 63, 106347. (SCI & SCOPUS indexed)
81. Omidian P, Khaji N, Aghakouchak AA, 2024. A logical retrofit strategy optimization framework for resiliency bridge infrastructure management considering life-cycle cost. Sustainable Structures, 4(1), 000036. (SCI & SCOPUS indexed)
82. Bazrafshan A, Khaji N, Ahmadi G, 2024. A new probabilistic long-period critical excitation procedure for isolated building structures. Mechanics Based Design of Structures and Machines, 52(9), 7063–7091. (SCI & SCOPUS indexed)
83. Bazrafshan A, Khaji N, Paolucci R, 2024. On the effect of background seismicity in physics-based earthquake simulations. Journal of Asian Earth Sciences, 274, 106261. (SCI & SCOPUS indexed)
84. Mora Martinez ED, Khaji N, 2024. An adaptive data-driven algorithm with machine learning for modeling high-order nonlinear beam-column finite elements. Journal of Building Engineering, 98, 111296. (SCI & SCOPUS indexed)
85. Mora Martinez ED, Khaji N, 2024. An advanced adaptive mesh for beam-column finite elements on transient dynamic analysis. Civil Engineering Journal, 10(12), 3803–3833. (SCI & SCOPUS indexed)
86. Omidian P, Khaji N, Aghakouchak AA, 2025. An integrated decision-making approach to resilience–LCC bridge network retrofitting using a genetic algorithm-based framework. Resilient Cities and Structures, 4(1), 16–40. (SCI & SCOPUS indexed)
87. Mora Martinez ED, Khaji N, 2025. MainModelingStr: A structural dynamic nonlinear analysis framework with adaptive beam-column finite elements. Journal of Earthquake and Tsunami, 19(2), 2450035 (34 pages). (SCI & SCOPUS indexed)
88. Matinfar M, Khaji N, 2025. Generating design spectrum-compatible artificial accelerograms utilizing generative adversarial networks. Journal of Seismology and Earthquake Engineering, 27(2), 15–24.
89. Ahmadi A, Khaji N, Bazrafshan A, 2025. Seismic analysis of base-isolated liquid storage tanks incorporating a new probabilistic long-period critical excitation method. Results in Engineering, 26, 104977. (SCI & SCOPUS indexed)
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91. Mora Martinez ED, Khaji N, 2025. A grammar L-system-based generative design process to improve the seismic performance of structures with steel dampers. Journal of Building Engineering, 112, 113707. (SCI & SCOPUS indexed)
92. Ahmadi A, Khaji N, Bazrafshan A, 2026. A secondary seismic-design bound for liquid storage tanks using critical excitation methods. Mechanics Based Design of Structures and Machines, 54(1), 2559417. (SCI & SCOPUS indexed)
93. Ahmadi A, Khaji N, Sadegh-Azar H, 2026. Beyond-design-basis screening by a three-bound critical excitation envelope for base-isolated nuclear power plants. Nuclear Engineering and Design, 448, 114700. (SCI & SCOPUS indexed)
94. Ahmadi A, Khaji N, 2026. Critical excitation-based spectra: a simplified tool for evaluating infrastructure under rare earthquakes. Applied Sciences, 16(6), 2688. (SCI & SCOPUS indexed)
95. Mohammadi M, Khaji N, 2026. Seismic fragility evaluation of elevated water storage tanks isolated by optimized polynomial friction pendulum isolators. CMES Computer Modeling in Engineering and Sciences, 146(3), 16. (SCI & SCOPUS indexed)
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98. Ahmadi A, Khaji N, 2026. A critical excitation response spectrum for beyond-design-basis screening in New Zealand: Wellington case study. Bulletin of the New Zealand Society for Earthquake Engineering (Accepted for publication) (SCI & SCOPUS indexed)
99. Ahmadi A, Khaji N, Ahmadi G, 2026. A rapid beyond-design-basis check for critical building structures based on energy-bound critical excitation. International Journal of Structural Stability and Dynamics (Accepted for publication) (SCI & SCOPUS indexed)

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2. Khaji N, Higashihara H, 2005. A new method for numerical modeling of crustal deformations, part one: theory. Modarres Technical and Engineering Journal, 19, 13–30.
3. Khaji N, Higashihara H, 2005. A new method for numerical modeling of crustal deformations, part two: application. Modarres Technical and Engineering Journal, 19, 31–50.
4. Choupani K, Khaji N, 2006. An inverse method for dynamic properties identification of 2D- and 3D-shear frames. Research Bulletin of Seismology and Earthquake Engineering, 9(3), 2–15.
5. Hafizi R, Khaji N, Shafieefar M, 2007. Evaluation of wave-diffraction forces on a submerged sphere using a hybrid BE-FE method. Journal of Hydraulics, 4, 23–37.
6. Bahrany AH, Khaji N, 2010. Green's function operator matrix of intraplate faults. Journal of the Earth and Space Physics, 36(1), 59–69.
7. Joharzadeh M, Khaji N, Bahreininejad A, 2010. Health monitoring of cracked cantilever beams using artificial neural networks considering nonlinear crack behavior. Modares Civil Engineering Journal, 10(3), 105–118.
8. Ahmadvand Sh, Khaji N, Soltani M, 2010. Seismic rehabilitation of masonry arch bridges using post-tensioning method. Journal of Transportation Engineering, 1(2), 1–19.
9. Arab MH, Khaji N, 2012. Seismic analysis of baffled liquid storage tanks using boundary element method. Modares Civil Engineering Journal, 12(2), 11–22.
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13. Babaee R, Khaji N, Ahmadi MT, 2015. Development of decoupled equations methods for calculating hydrodynamic pressures on concrete gravity dams. Modares Civil Engineering Journal, 15, 41–52.
14. Yazdani M, Khaji N, 2015. Development of decoupled equations method to calculate J-integral in linear elastic fracture mechanics problems. Modares Mechanical Engineering, 15(9), 59–68.
15. Livani MA, Khaji N, Zakian P, 2016. Damage identification of cracks in structures via extended finite element method and particle swarm optimization. Modares Civil Engineering Journal, 16(5), 177–189.
16. Bazrafshan A, Khaji N, 2016. Determination of critical excitation for MDOF systems based on displacement target function and energy constraint. Bulletin of Earthquake Science and Engineering, 3(1), 17–28.

17. Maddahi N, Khaji N. 2016. Vibration-based damage identification of masonry walls using distinct element modeling. Modares Civil Engineering Journal, 17(1), 203–215.
18. Bazrafshan A, Khaji N, 2016. Seismic response of base-isolated high-rise buildings under long-period ground motions. Modares Civil Engineering Journal, 16(2), 41–52.
19. Mirashrafi SR, Khaji N, 2016. Determination of slippage field of strike-slip faults using inverse solution methods. Journal of the Earth and Space Physics, 42(2), 233–245.
20. Zakian P, Khaji N, 2016. Development of higher-order stochastic spectral finite element method for uncertainty analysis of 2D continua. Modares Mechanical Engineering, 16(7), 51–60.
21. Mirzajani M, Khaji N. 2017. Stress wave propagation modelling in one-dimensional micropolar rods using a new Wave Finite Element Method. Modares Mechanical Engineering, 17(5), 405–412.
22. Yazdani M, Khaji N, 2017. Estimation of coefficients of Williams' series in LEFM problems using decoupled equations method. Sharif Journal of Civil Engineering, 33(2), 87–97.
23. Mousivand H, Khaji N, 2017. Application of scaled boundary finite element method in topographic effects on seismic waves. Journal of Modeling in Engineering, 15, 161–174.
24. Rezaei MH, Khaji N, 2018. Modification of specific barrier model for faulting modeling by using of new time functions based on site position and fault geometry. Journal of the Earth and Space Physics, 44(1), 21–38. (SCOPUS indexed)
25. Rezaei MH, Khaji N, 2018. Simulation of L'Aquila earthquake using specific barrier model. Modares Civil Engineering Journal, 18(2), 101–112.
26. Torkanloo E, Khaji N, 2019. A new approach for determination of threshold parameter in the spectral decomposition regularization method. Bulletin of Earthquake Science and Engineering, 6(1), 13–22.
27. Rezaei MH, Khaji N, 2019. Modeling of faulting using a specific barrier model based on a novel packing technique of rupture cracks. Bulletin of Earthquake Science and Engineering, 6(2), 15–26.
28. Ahmadi A, Khaji N, Bazrafshan A, 2019. Seismic analysis of base-isolated water storage tanks subjected to long-period earthquakes using critical excitation method. Sharif Journal of Civil Engineering, 35.2(4.1), 111–118.
29. Ghazanfari Tehran A, Khaji N, Yazdani M. 2020. Dynamic analysis of soil-structure interaction using decoupled scaled boundary finite element method. Bulletin of Earthquake Science and Engineering, 7(3), 83–96.
30. Fakheri Kouzekanan A, Khaji N, 2024. Detection of irregular flaws in 2D domains using extended finite element method and metaheuristics algorithms, GA and GWO. Modares Civil Engineering Journal, 23(6), 131–142.

Refereed conference proceedings

1. Khaji N, 2003. On the location determining of coming Tokai earthquake, Central Japan. 4th International Conference of Seismology and Earthquake Engineering, SEE4, Tehran, Iran.
2. Khaji N, Mehrjoo M, 2007. Damage Detection of Bridge Structures from Dynamic Responses Using Neural Networks. 5th International Conference of Seismology and Earthquake Engineering, SEE5, Tehran, Iran.
3. Karimi I, Khaji N, 2009, System identification of concrete gravity dams using artificial neural networks. 2nd International Conference of Long Term Behavior of Dams, LTDB09, Graz, Austria.
4. Khodakarami MI, Khaji N, 2010. Application of higher-order elements in scaled boundary finite element method (SBFEM) to improve its accuracy and efficiency. 5th National Congress on Civil Engineering, Mashhad, Iran.
5. Kazemi Noureini H, Khaji N, 2011. Application of spectral finite element method in analysis of transient elastodynamic problems. 6th National Congress on Civil Engineering, Semnan, Iran.

6. Mehrjoo M, Khaji N, 2011. Stiffness matrix of a new cracked beam finite element using the conjugated beam method and Betti's law. 6th International Conference on Seismology and Earthquake Engineering, SEE6, Tehran, Iran.
7. Hamidi M, Khaji N, 2011. Accurate boundary conditions for finite element modeling of movement field within Iran tectonic plate. 6th International Conference on Seismology and Earthquake Engineering, SEE6, Tehran, Iran.
8. Khodakarami MI, Khaji N, 2011. A novel semi-analytical method with diagonal coefficient matrices for the analysis of elastostatic problems. International Conference on Boundary Element and Meshless Techniques XII, BETEQ2011, Brasilia, Brazil.
9. Shafiei M, Khaji N, 2012. An adaptive physics-based method for solution of wave motion problem in one dimension. 9th International Congress on Civil Engineering, Isfahan, Iran.
10. Fekrazadeh S, Khaji N, 2012. Boundary conditions identification of beam-like structural elements using a test mass. 9th International Congress on Civil Engineering, Isfahan, Iran.
11. Khodakarami MI, Khaji N, 2012. A novel three-dimensional semi-analytical method with diagonal coefficient matrices for potential problems. 9th International Congress on Civil Engineering, Isfahan, Iran.
12. Khodakarami MI, Khaji N, 2012. Site response analysis of wave propagation in half-planes with topography irregularities based on a novel semi-analytical simulation approach. 15th World Conference of Earthquake Engineering, 15WCEE, Lisbon, Portugal.
13. Dehghan Manshadi SH, Khaji N, 2012. A linear sampling method for inverse scattering elastodynamics problems in the time domain. 15th World Conference of Earthquake Engineering, 15WCEE, Lisbon, Portugal.
14. Shafiei M, Khaji N, 2012. An adaptive physics-based method for the solution of wave motion problem in two dimensions. 15th World Conference of Earthquake Engineering, 15WCEE, Lisbon, Portugal.
15. Hamzehei Javaran S, Khaji N, 2012. Inverse Multiquadric (IMQ) function as radial basis function for plane dynamic analysis using dual reciprocity boundary element method. 15th World Conference of Earthquake Engineering, 15WCEE, Lisbon, Portugal.
16. Yazdani M, Khaji N, 2015. Development of decoupled equations method to calculate stress intensity factors in 2D problems. 10th International Congress on Civil Engineering, Tabriz, Iran.
17. Maddahi N, Khaji N, 2015. Vibration based damage identification of masonry structures. 10th International Congress on Civil Engineering, Tabriz, Iran.
18. Zakian P, Khaji N, 2015. A stochastic-spectral finite element applied to the analysis of stochastic structural mechanics problems. 10th International Congress on Civil Engineering, Tabriz, Iran.
19. Zakian P, Khaji N, 2015. A stochastic-spectral finite element method for analysis of elasto-dynamic problems. 7th International Conference on Seismology and Earthquake Engineering, SEE7, Tehran, Iran.
20. Mirzajani M, Khaji N, 2016. A new nonreflecting open boundary condition for circular cavities in unbounded domain. 9th National Congress on Civil Engineering, Mashhad, Iran.
21. Zakian P, Khaji N, 2017. A new approach for stochastic analysis of cyclically symmetric structures. 3rd International Conference on Structural Engineering, Tehran, Iran.
22. Zakian P, Khaji N, 2018. A numerical strategy for solution of wave propagation in random media. 11th International Congress on Civil Engineering, Tehran, Iran.
23. Kalantari M, Khaji N, Eskandari-Ghadi M, 2020. Displacement of a rigid disc embedded in a functionally graded transversely isotropic half-space. 7th International Conference on Civil, Architectural, and Environmental Sciences, Berlin, Germany.
24. Omidian P, Khaji N, 2020. Retrofit optimization for resilience enhancement of office buildings in the refinery sites under seismic scenarios. 12th National Congress on Civil Engineering, Tabriz, Iran.

25. Omidian P, Khaji N, 2021. A multi-occurrence seismic hazard life-cycle cost retrofit optimization framework for RC refinery infrastructures. 6th International Reliability and Safety Engineering Conference, Shiraz, Iran.
26. Omidian P, Khaji N, Aghakouchak AA, 2023. Developing a resilience-based optimization framework for life-cycle costing infrastructure management. 7th International Conference on Reliability and Safety Engineering, Tehran, Iran.
27. Hamzehpour M, Khaji N, 2023. Proposing a simplified friction pendulum system optimization method for multi-span bridges. 13th International Congress on Civil Engineering, Tehran, Iran.
28. Mora ED, Khaji N, 2023. Complexity adaptation strategy for order-adaptive elements. 17th International Conference on Civil, Structural and Environmental Engineering Computing, Edinburgh, UK.
29. Makino T, Khaji N, 2023. Damage identification of planar frame structures using the Enhanced Colliding Bodies Optimization (ECBO) algorithm. Japan Society of Civil Engineers (JSCE) Annual Conference, Hiroshima, Japan.
30. Mora Martinez ED, Khaji N, 2023. Generalized high-order nonlinear frame elements. Japan Society of Civil Engineers (JSCE) Annual Conference, Hiroshima, Japan.
31. Omidian P, Khaji N, Aghakouchak AA, 2023. Proposing a probabilistic seismic time-dependent resilience assessment framework of aging bridges considering retrofitting. 13th International Congress on Civil Engineering, Tehran, Iran.
32. Matinfar M, Khaji N, 2024. Design spectrum-compatible synthesis of artificial accelerograms utilizing generative adversarial networks. 9th International Conference on Seismology and Earthquake Engineering, Tehran, Iran.
33. Mohammadi M, Farajollahi S, Khaji N, 2024. Optimizing seismic resilience of base-isolated liquid storage tanks utilizing swarm intelligence algorithms. 9th International Conference on Seismology and Earthquake Engineering, Tehran, Iran.
34. Bazrfshan A, Khaji N, 2024. A new approach to correct the spatial distribution of earthquakes in physics-based earthquake simulation. 9th International Conference on Seismology and Earthquake Engineering, Tehran, Iran.
35. Omidian P, Khaji N, Aghakouchak AA, 2024. A data-driven seismic risk framework for resilience modeling and life-cycle cost analysis in sustainable transportation network mitigation planning. 9th International Conference on Seismology and Earthquake Engineering, Tehran, Iran.
36. Ahmadi A, Khaji N, 2025. Effect of frequency bandwidth in critical excitation on liquid storage tanks. JSCE Annual Conference, Hiroshima, Japan.
37. Mehrabi K S, Khaji N, 2025. Damage identification in flexural frames using various colliding body optimization family algorithms. 14th International Congress on Civil Engineering, Tehran, Iran.
38. Fathabadi S, Khaji N, 2025. A comprehensive sensitivity analysis of cable-stayed bridge dynamics: a case study of the Quincy Bayview bridge. 14th International Congress on Civil Engineering, Tehran, Iran.
39. Nguyen DA, Khaji N, 2026. Evaluation of seismic resilience and post-seismic performance of existing RC buildings retrofitted with a novel SMA-ECC combination column jacketing method. JSCE Annual Conference, Hiroshima, Japan.
40. Zhang S, Khaji N, 2026. Improving feature preservation in FRF-based damage detection of structural systems using 2D-PCA and hybrid metaheuristic search. JSCE Annual Conference, Hiroshima, Japan.
41. Ahmadi A, Khaji N, 2026. Critical excitation input generation for seismic regions with limited historical ground-motion data. JSCE Annual Conference, Hiroshima, Japan.
42. Fakharzadeh Naeini E, Khaji N, Hori M, 2026. Numerical solution of the three-dimensional Lamb's problem in a viscoelastic semi-infinite medium incorporating a novel perfectly matched layer. 18th European Conference on Earthquake Engineering, Berlin, Germany.

43. Ahmadi A, Khaji N, Deguchi K, 2026. On the role of envelope functions in critical excitation methods for seismic input. 18th European Conference on Earthquake Engineering, Berlin, Germany.

Refereed conference proceedings (in Persian)

1. Choupani K, Khaji N, 2004. Application of singular value decomposition method for determination of dynamic properties of structures. 1st National Congress of Civil Engineering, Tehran, Iran.
2. Mehrjoo M, Khaji N, 2006, Inverse methods for damage detection of structures. 7th International Congress on Civil Engineering, Tehran, Iran.
3. Khaji N, Shafieefar M, Hafizi R, 2006. Modeling a submerged sphere structure using a hybrid BE-FE method. 7th International Congress on Civil Engineering, Tehran, Iran.
4. Khaji N, Mehrjoo M, 2007. Damage detection of truss bridge joints based on static data using artificial neural networks. 3rd National Congress of Civil Engineering, Tabriz, Iran.
5. Khaji N, Habibi M, 2007. Application of spectral element method for wave propagation in elastic continuums. 5th International Conference of Seismology and Earthquake Engineering, SEE5, Tehran, Iran.
6. Khaji N, Bahrany AH, 2007. Numerical calculation of Green's function operator matrix: a case study of North Tehran fault. 5th International Conference of Seismology and Earthquake Engineering, SEE5, Tehran, Iran.
7. Khaji N, Joharzadeh M, 2007. Application of artificial neural networks in crack detection of cantilever beams. 3rd National Congress of Civil Engineering, Tabriz, Iran.
8. Khaji N, Ahmadvand Sh, 2007. Strengthening masonry arch bridges using post-tensioning rods. 3rd National Congress of Civil Engineering, Tabriz, Iran.
9. Jalalpour M, Khaji N, 2008. Application of hard- and soft-computing methods in determining structural characteristics. 4th National Congress of Civil Engineering, Tehran, Iran.
10. Jalalpour M, Khaji N, 2008. An analytical solution for the free-vibration problem of Timoshenko cracked beams. 4th National Congress of Civil Engineering, Tehran, Iran.
11. Shekari MR, Khaji N, 2008. The effect of seismic isolators on the behavior of liquid storage tanks. 4th National Congress of Civil Engineering, Tehran, Iran.
12. Khanmirza E, Khaji N, 2008. Estimating mass, stiffness, and damping matrices of structures using forces vibration test results. 4th National Congress of Civil Engineering, Tehran, Iran.
13. Jalalpour M, Hamzeh Javaran S, Khaji N, 2009. Application of Legendre and Chebyshev spectral element methods in modeling impulsive wave propagation in elastic domains. 8th International Congress on Civil Engineering, Shiraz, Iran.
14. Mirhashemian P, Khaji N, 2009. Soil-structure interaction analysis using a hybrid spectral element-finite element approach. 8th International Congress on Civil Engineering, Shiraz, Iran.
15. Mirzayee M, Khaji N, 2009. Far-field boundary effects on hydrodynamic pressure distribution on concrete gravity dams. 8th International Congress on Civil Engineering, Shiraz, Iran.
16. Shafiee M, Khaji N, 2009. An analytical solution for crack detection of a cracked cantilever deep beam. 8th International Congress on Civil Engineering, Shiraz, Iran.
17. Amini M, Khaji N, 2010. Evaluation of canyon site effects on seismic waves using boundary element method and Neumann series. 5th National Congress on Civil Engineering, Mashhad, Iran.
18. Shafiee M, Khaji N, 2010. An analytical solution for free and forced vibrations of a cracked deep beam subject to a concentrated moving load. 5th National Congress on Civil Engineering, Mashhad, Iran.
19. Arab MH, Khaji N, 2010. Earthquake analysis of baffled liquid storage tanks using boundary element method. 9th Iranian Hydraulic Conference, Tehran, Iran.

20. Pedroud K, Khaji N, 2010. A heuristic method for optimizing the configuration of concrete gravity dams considering the dynamic interaction of fluid and structure. 9th Iranian Hydraulic Conference, Tehran, Iran.
21. Fekrazadeh S, Khaji N, Shafiee M, 2010. An analytical estimation of natural frequencies for a cracked steel deep beam using a concentrated test mass at an arbitrary point. 1st Conference of Steel and Structures, Tehran, Iran.
22. Shafiei M, Khaji N, 2011. Application of cellular automata approach for simulating in-plane elastic wave propagation in two-dimensional domains. 6th National Congress on Civil Engineering, Semnan, Iran.
23. Soghrat MR, Khaji N, Zafarani H, 2011. Investigation of site effects in Northern Iran using the empirical H/V method. 6th National Congress on Civil Engineering, Semnan, Iran.
24. Fekrazadeh S, Shafiei M, Khaji N, 2011. An analytical method for crack detection of a simply supported deep beam using a test mass. 6th National Congress on Civil Engineering, Semnan, Iran.
25. Soghrat MR, Khaji N, Zafarani H, 2011. Simulation of strong ground motion in northern Iran based on the specific barrier model. 6th International Conference on Seismology and Earthquake Engineering, SEE6, Tehran, Iran.
26. Peimani M, Yazdanpanah MJ, Khaji N, 2011. Parameter estimation of structural systems with hysteretic behavior. 1st International Conference on Acoustics and Vibration, Tehran, Iran.
27. Fekrazadeh S, Khaji N, 2011. Determining uncertain boundary conditions of cracked steel deep beams using a stationary concentrated mass at an arbitrary position. 2nd Conference of Steel and Structures, Tehran, Iran.
28. Mousivand H, Khaji N, 2012. Application of scaled boundary finite element method in investigating topographic effects on seismic waves. 9th International Congress on Civil Engineering, Isfahan, Iran.
29. Peimani M, Yazdanpanah MJ, Khaji N, 2013. Parameter estimation in hysteretic systems using the methods based on least-squares estimation. 21st Iranian Conference on Electrical Engineering, Mashhad, Iran.
30. Mirzajani M, Khaji N, Khodakarami MI, 2013. A diagonal dynamic impedance matrix for analysis of an unbounded medium in the frequency domain. 7th National Congress on Civil Engineering, Zahedan, Iran.
31. Moghadaszadeh SO, Khaji N, 2013. Development and application of decoupled equations method for analysis of wave diffraction around a vertical barrier of circular cross-section. 12th Iranian Hydraulic Conference, Tehran, Iran.
32. Babaee R, Khaji N, 2013. Development of decoupled equations method for solving two-dimensional elastodynamic problems of support excitation in the frequency domain. 3rd International Conference on Acoustics and Vibration, Tehran, Iran.
33. Babaee R, Mirzajani M, Khaji N, 2014. Development of decoupled equations method for solving Helmholtz equation by directly implementing boundary conditions. 8th National Congress on Civil Engineering, Babol, Iran.
34. Mirashrafi SR, Khaji N, 2014. Numerical simulation of faults for calculating Green's function operator matrix using split note technique. 8th National Congress on Civil Engineering, Babol, Iran.
35. Mohtasebi M, Khaji N, 2015. Identification of uncertain boundary conditions of cracked beams using a stationary concentrated mass. 10th International Congress on Civil Engineering, Tabriz, Iran.
36. Bazrafshan A, Khaji N, 2015. Critical excitation for seismic input energy. 7th International Conference on Seismology and Earthquake Engineering, SEE7, Tehran, Iran.
37. Ghazanfari Tehran A, Khaji N. 2015. Dynamic analysis of dam-foundation interaction using decoupled equations method. 7th International Conference on Seismology and Earthquake Engineering, SEE7, Tehran, Iran.

38. Torkanloo E, Khaji N, 2015. A comparison between the singular value decomposition method and spectral decomposition method in solving inverse problems of fault movement prediction. 2nd Conference on Seismology and Earthquake Engineering in Alborz Province, Karaj, Iran.
39. Maddahi N, Khaji N, 2015. Investigating discrete element method in modeling nonlinear behavior of masonry structures. International Conference on Modern Research in Civil Engineering, Architecture, Urban Planning, Tehran, Iran.
40. Yazdani M, Khaji N, 2015. Seismic hazard analysis of Sanandaj City using a probabilistic approach. 3rd International Congress on Civil Engineering, Architecture, Urban Development, Tehran, Iran.
41. Torkanloo E, Khaji N, 2016. Feasibility study on prediction of future earthquakes' epicenters using the inverse solution of interseismic data. 9th National Congress on Civil Engineering, Mashhad, Iran.
42. Torkanloo E, Khaji N, 2016. Estimation of slippage field of the 1999 Mw 7.1 Hector Mine earthquake using spectral decomposition of Green's function. 9th National Congress on Civil Engineering, Mashhad, Iran.
43. Zakian P, Khaji N, 2017. Monte Carlo simulation in finite element analysis of dislocation of faults with uncertain length. 10th National Congress on Civil Engineering, Tehran, Iran.
44. Hakimi Shouraki M, Khaji N, 2017. Seismic analysis of high-rise flexural steel frames with geometric setback under the effect of near-fault earthquakes. 10th National Congress on Civil Engineering, Tehran, Iran.
45. Abbasi A, Khaji N, 2017. Evaluation of modal push-over analysis method with updating load pattern for irregular bridges under the effect of long-period earthquakes. 10th National Congress on Civil Engineering, Tehran, Iran.
46. Ahmadi A, Khaji N, Bazrafshan A, 2017. Analysis of seismic behavior of base-isolated liquid storage tanks subjected to long-period earthquakes using critical excitation method. 10th National Congress on Civil Engineering, Tehran, Iran.
47. Rezaei MH, Khaji N, 2017. A Modified specific barrier model for simulating the strong ground motions generated by seismic waves propagating from active faults. 10th National Congress on Civil Engineering, Tehran, Iran.
48. Khaji N, Rezaei MH, 2018. Modification of specific barrier model for simulating the strong ground motions caused by seismic waves propagating from oblique active faults. 11th International Congress on Civil Engineering, Tehran, Iran.
49. Saei Nezami E, Khaji N, Alembagheri M, 2018. Development of fragility curves of base-isolated fluid storage tanks under long-period earthquakes. 11th International Congress on Civil Engineering, Tehran, Iran.
50. Farajollahi S, Khaji N, 2018. The effect of the tower's stiffness on the seismic behavior of isolated elevated tanks. International Conference on Civil Engineering, Architecture and Urban Development Management in Iran, Tehran, Iran.
51. Farajollahi S, Khaji N, 2018. Evaluation of seismic isolator parameters on the response of isolated elevated tanks. 9th National Conference and 3rd International Conference of Steel and Structures, Tehran, Iran.
52. Kalantari M, Khaji N, 2019. A semi-analytical method for solving the inverse problem of dislocation determining of faulting plane. 11th National Congress on Civil Engineering, Shiraz, Iran.
53. Eslambolchi Sh, Khaji N, 2019. Proposing a stochastic model for generating synthetic accelerograms for long-period earthquakes. 11th National Congress on Civil Engineering, Shiraz, Iran.
54. Dehghan M, Rahai A, Khaji N, 2019. Predicting the remaining fatigue life of steel bridges and proposing a fatigue damage inspection schedule. 3rd International Conference on Applied Research in Structural Engineering and Construction Management, Tehran, Iran.
55. Mohammadi M, Farajollahi S, Khaji N, 2023. Seismic vulnerability assessment of isolated elevated liquid storage tanks under the effect of long-period earthquakes. 13th International Congress on Civil Engineering, Tehran, Iran.

56. Yazdani M, Hassani N, Khaji N, 2023. The necessity of civil engineering title replacement to infrastructure engineering. 8th International Conference of Engineering Education Association, Tehran, Iran.

Presentations

1. Khaji N, 2011. Studies in seismic wave propagation in Iran. 8th UNESCO Workshop on Reduction of Earthquake Losses in South-Asia Region, Tehran, Iran (Invited keynote speaker).
2. Khaji N, 2013. A review of the current numerical methods in modeling seismic wave propagation. 7th National Congress on Civil Engineering, Zahedan, Iran (Invited keynote speaker).
3. Maddahi N, Khaji N, 2014. Vibration based health monitoring of masonry structures using artificial neural networks. 6th Conference on National Building Regulations, Shiraz, Iran (Invited keynote speaker).
4. Forghani S, Khaji N, 2020. An anisotropic multi-scale method for modeling wave propagation. 12th National Congress on Civil Engineering, Tabriz, Iran (Invited keynote speaker).
5. Forghani S, Khaji N, 2022. An anisotropic multi-scale method for sliding dislocations. Applied Mechanics Symposium, Tokyo, Japan (Invited speaker).
6. Omidian P, Khaji N, 2022. Seismic vulnerability mitigation strategies for buildings in urban areas: a case study of Tehran, Iran. 75th Anniversary of Civil Engineering Bachelor Program "Civil Engineering in the Face of Catastrophic Phenomena due to Climate Change." University of Guanajuato, Mexico (Invited keynote speaker).
7. Khaji N, Omidian P, 2023. A multi-criteria framework for sustainable infrastructure management. 2nd International Conference on Sustainable Structures (ICSUST2) & 2nd Symposium of the Youth Editorial Board of SUST (SYEBS2), Nanjing Forestry University, China (Invited keynote speaker).

Teaching Experience

- Mathematics of civil engineering (B.Sc. Level)
- Structural mechanics (B.Sc. Level)
- Structural analysis (B.Sc. Level)
- Advanced structural engineering (M.Sc. Level)
- Finite element method (M.Sc. Level)
- Advanced engineering mathematics (M.Sc. Level)
- Seismic hazard analysis (M.Sc. Level)
- Seismic analysis of special structures (M.Sc. Level): dynamic analysis of storage tanks, bridges, tunnels, pipelines, telecommunication towers, etc.
- Boundary element method (Ph.D. Level)
- Nonlinear finite element method (Ph.D. Level)
- Elastic wave propagation (Ph.D. Level)

Advisory (Reviewer) Board of International Journals

- Computer-Aided Civil and Infrastructure Engineering (Wiley)
- International Journal of Mechanical Sciences (Elsevier)
- International Journal of Solids and Structures (Elsevier)
- Engineering Structures (Elsevier)
- Journal of Engineering Mechanics (ASCE)
- Engineering Analysis with Boundary Elements (Elsevier)
- Fatigue & Fracture of Engineering Materials & Structures (Wiley)

- Journal of Aerospace Engineering (ASCE)
- Acta Mechanica Sinica (Springer)
- Structural Engineering and Mechanics (Techno-Press)
- International Journal of Computational Methods (World Scientific)
- Ain Shams Engineering Journal (Elsevier)
- Journal of Earthquake Engineering (Taylor & Francis)
- Journal of Earthquake and Tsunami (World Scientific)
- Journal of Seismology and Earthquake Engineering (IIEES)
- International Journal of Civil Engineering (IUST)
- Journal of Computational Methods in Engineering (IUT)
- Scientia Iranica (SUT)
- Civil Engineering Infrastructures Journal (UT)
- International Journal of Maritime Technology (IANAME)

Member of Editorial Boards

- Editor-in-Chief of the Journal of Earthquake and Tsunami (World Scientific)
- Editor of the Journal of Seismology and Earthquake Engineering (IIEES)
- Editor of Sustainable Structures (Sustainable Development Press, SDP)
- Editor of Sustainable Engineering Materials (SDP)
- Editor of Modares Civil Engineering Journal (TMU)

Research Projects

- Khaji N. 2008. Seismic analysis of cracked concrete gravity dams using a hybrid distinct element–boundary element approach. Water Resources Management Organization, Iranian Ministry of Energy (Project number: DAM2-85126).
- Zakian P, Khaji N. 2017. Numerical simulation of seismic wave propagation due to faulting in a random domain. Iran National Science Foundation (Project number: 96.S.53925).
- Fakharzadeh Naeini E, Khaji N, Hori M. A novel 3D perfectly matched layer (PML) boundary condition for accelerated analysis of seismic waves in heterogeneous media based on an efficient voxel element method (VEM). Grant-in-Aid for Scientific Research (C), 25K08218, April 1, 2025 – March 31, 2028.

Academic Awards, Honors, and Achievements

1995	Graduated ranking second at the University of Tehran.
1998	Graduated ranking first from Tarbiat Modares University.
1995-1998	Post-graduate scholarship for M.Sc. studies awarded by the Iranian Ministry of Science, Research, and Technology.
1998-2001	Full scholarship for Ph.D. studies awarded by the Japanese Ministry of Education, Science, Sports, and Culture.
2013	Distinguished Professor at Tarbiat Modares University.
2017	Distinguished researcher at Tarbiat Modares University.
2026	Current citations in SCOPUS: 1953; Hirsch number (h-index): 24