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Educational Background

- PhD, (2010) Sharif University of Technology, Tehran,Iran
Major: Earthquake Engineering
Thesis Topic: Effect of Soil-Structure Interaction on performance of Structures.
Advisor: Prof. M.A. Ghannad
- MS, (2004) Sharif University of Technology, Tehran,Iran,
Major: Earthquake Engineering
Thesis Topic: Effect of Soil-Structure Interaction on Strength Reduction Factors.
Advisor: Prof. M.A. Ghannad
- BSc, (2001) Sharif University of Technology, Tehran,Iran,
Major: Civil Engineering

Interested fields

- Soil-Structure interaction
- Image based response recording systems
- Seismic design and evaluation of bridges
- Seismic design and evaluation of industrial facilities
- Seismic hazard analysis

Industrial Experiences

- Seismic evaluation of 15 bridges in Tehran Metropolitan (2006-2010)
- Seismic design review of selective petrochemical facilities in Mega petrochemical site Assaluyeh (2005-2006)
- Seismic hazard analysis for several sites since 2004.

Patent

- AFRA System: A premium solution for increasing sampling rate in ordinary cameras

Journal Papers

- Jahankhah, H., Akhavat, M., (2019), "A study on amplifying aspects of uplift phenomenon with a focus on seismic demands of SDOF systems rocking on rigid base", *Journal of Earthquake Engineering*, (Submitted).
- Sadjadi, M., Fadaee, M., Ghannad, M.A., Jahankhah, H., (2019), " Numerical Study of Stiff Diaphragm Walls Used to Improve the Performance of Rocking Foundation Systems", *Journal of Earthquake Engineering*, (doi.org/10.1080/13632469.2019.1631233).
- Pariz, A.H., Jahankhah, H., Bastami, M., Kiani, M., (2018), "An approximate estimation of critical layer depth in seismic analysis of rectangular underground structures", *Bulletin of Earthquake Science and Engineering*, (accepted in Persian).
- Davoodi, M., Pourdeilami, A., Jahankhah, H., Jafari, M.K., (2018), "Application of perfectly matched layer to soil-foundation interaction", *Journal of Rock Mechanics and Geotechnical Engineering*, Vol. 10, P. 753-768.
- Farashahi, P.F., Jahankhah, H., (2018), " Reduction of seismic input motion through adjusting contact length of foundation side walls to surrounding medium ", *The Structural Design Of Tall and Special Buildings*, DOI: 10.1002/tal.1546.
- Jahankhah, H., Esmailpour, A., (2018), " An investigation on foundation input motion imposed on a surface strip foundation considering proximity to an embedded strip foundation", *Sharif Civil Engineering Journal*, Vol 34-2, No. 2, P. 59-71 (in Persian).
- Jahankhah, H., Farashahi, P.F., (2017), " The effect of foundation embedment on net horizontal foundation input motion: The case of strip foundation with incomplete contact to nearby medium ", *Soil Dynamics and Earthquake Engineering*, Vol 96C, pp. 35-48.
- Pariz, A.H., Jahankhah, H., Bastami, M., (2017), " A study on seismically induced lining strains to underground rectangular 2D structures: The case of shear wave field of motion with different incident angles", *Bulletin of Earthquake Science and Engineering*, Vol 8, No. 3, P. 31-47 (in Persian).
- Pariz, A.H., Jahankhah, H., Bastami, M., (2016), " An investigation on seismically induced local distortions to underground rectangular 2D cavities: The case of shear wave field of motion with different incident angles ", *Bulletin of Earthquake Science and Engineering*, Vol 6, No. 1, P. 41-53 (in Persian).
- Jahankhah, H., Farashahi, P.F., (2015), " The Relation Between Foundation Embedment and Peak Horizontal Input Acceleration: The Case of Strip Foundation with Partial Contact to Surrounding Medium", *Journal of Seismology and Earthquake Engineering*, Vol 17, No. 2, pp. 103-113.
- Ghahramanpoor, B., Fanaie, N., Jahankhah, H., (2015), " Studying Near Fault Endurance Time Acceleration Function", *Scientia Iranica*, Vol 22, No. 1, P.15-29.
- Jahankhah, H., Yazdi, P.E., (2015), " Calibration of 2D numerical models for the case of soil-structure systems with surface foundations ", *Sharif Civil Engineering Journal*, Vol 33-2, No. 1, P. 31-45 (in Persian).
- Jahankhah, H., Ghannad, M. A., Rahmani, M. T. (2013) "Alternative Solution for Kinematic Interaction Problem of Soil-Structure Systems with Embedded

Foundation", *The Structural Design of Tall and Special Buildings*. Online.
DOI: 10.1002/tal.685.

- Esmailzade, E., Jahankhah, H., Ghannad, M. A. (2012) " Equivalent Linearization of Nonlinear Soil-Structure Systems ", *Earthquake Engineering and Structural Dynamics*, Vol. 41, No. 13, P. 1775-1792.
- Khodabakhshi, P., Jahankhah, H., Ghannad, M. A. (2011) " A Discrete model for response estimation of soil-structure systems with Embedded Foundations ", *Earthquake Engineering and Engineering Vibration*, Vol. 10, No. 2, P. 263-276.
- Ghahari, F., Jahankhah, H., Ghannad, M. A. (2010) " Study on elastic response of structures to near-fault ground motions through record decomposition ", *Soil Dynamics and Earthquake Engineering*, Vol. 30, No.7, P. 536-546.
- Ghannad, M. A., Jahankhah, H., (2007) " Site-dependent strength reduction factors for soil-structure systems ", *Soil Dynamics and Earthquake Engineering*, Vol. 27, No.2, P. 99-110.
- Ghannad, M. A., Jahankhah, H., (2006) 'Discussion of "Influence of Foundation Flexibility on R_{μ} and C_{μ} " by Javier Aviles and Luis Eduardo Perez-Rocha', *Journal of Structural Engineering*, ASCE, Vol. 132, No.6, P. 1009.

Soil Structure Interaction Research Group

- Massoud Taheri, Phd Student
Topic: An investigation on seismic foundation input motion to 3D rectangular foundations including incomplete contact of side-walls with surroundings
- Mostafa Akhavat, Phd Student
Topic: Numerical evaluation of effect of foundation uplift on seismic demands of multi degree of freedom elastic shear frames considering very high safety factor in foundation bearing capacity
- Alireza Ghafouri, Phd Student
Co-Advisors: Hossein Jahankhah and Ebrahim Haghshenas
Topic: Foundation input motion extraction in soil-structure systems using only output methods
- Farzad Asghari, Msc Student
Topic: Seismic fragility curves of SDOF structures rocking on rigid base.

Image Processing Research Group

- Dr. Mohammad Ali Goudarzi, Joint Partner, Structural engineering research center, International Institute of Earthquake Engineering and Seismology.
- Dr. Alireza Banihashem, Technical researcher
- Mohammad Mahdi Kbiri, Technical researcher
- Mohammadreza Nikoomanesh, Phd Student
Co-Advisors: Mohammad Ali Goudarzi and Hossein Jahankhah
Topic: Dynamic system identification of bridges using image processing techniques.

Former Students

- Golshan Poursafari, (Msc, 2018)
Topic: An Investigation of Foundation Input Motion Imposed on a Surface Strip Foundation Considering Proximity to a Secondary Structure with Embedded Strip Foundation
- Pouran Fallahzadeh Farashahi (Phd, 2017)
Topic: Improving the Existing Methods for Inclusion of Kinematic Interaction in Seismic Evaluation of Soil-Structure Systems
- Seyed Javad Fattahi, (Msc, 2017)
Topic: An Investigation on the Effect of Shear Wave Field of Motion on Seismic Demands of Underground Structures: The Case of 2D Rectangular-Cross-Section Structures.
- Ali Esmailpour, (Msc, 2016)
Topic: Study on the Effect of Rigid Strip Foundations Adjacency on Kinematic Soil – Foundation Interaction
- Sajjad Mohammadi Mashmiani, (Msc, 2015)
Topic: Effect of Foundation-Soil Nonlinear Interaction on Rocking Response of Rigid Block and Elastic Demands of Single Degree of Freedom Systems.
- Pedram Ezzat Yazdi, (Msc, 2014)
Topic: Calibration of 2D numerical models for the case of soil-structure systems with surface foundations.

Software Developments

- Massoud Taheri, (Phd, Student)
1: Automated code to predict dynamic impedance of 3D arbitrary shape foundations (ongoing project).
2: Automated code to predict foundation input motions of 3D arbitrary shape foundations under body and surface waves (ongoing project).
- Seyed Javad Fattahi, (Msc, Student)
1: Automated code to predict seismic frequency dependent strains imposed on underground 2D rectangular linear structures.
- Golshan Poursaffari, (Msc, Student)
1: Automated code to linearly estimate foundation input motion of shallowly embedded 2D foundations considering proximity to a structure with embedded foundation.

- Ali Esmailpour, (Msc, Student)
I: Automated code to linearly estimate seismic foundation input motion of multiple 2D neighbor foundation.
- Pouran Fallahzadeh Farashahi (Phd, Student)
I: Automated code to estimate seismic foundation input motion of 2D rectangular foundations considering incomplete contact to surrounding medium.
- Mohammad Mahdi Kabiri
I: Automated code to estimate movement trajectory of a vibrating object using image processing techniques.

Courses

- Soil-Structure Interaction
- Soil Dynamics
- Seismic design of special structures
- Advanced Earthquake Engineering
- Dynamics of Structures
- Finite Element Method