



**Hassan Ostadhossein**

**Scientific position:**

Assistant Professor

**Academic degrees:**

**Ph.D.:** Structural Engineering, University of Tehran, IRAN, 2007.

**Ph.D. Research topic:** Gas- Solid Interaction Modeling Using Particle Method.

**M.Sc.:** Structural Engineering, University of Tehran, IRAN, 2001.

**M.Sc. Research topic:** Crack Propagation Modeling in Masonry Bridges.

**B.Sc.:** Civil Engineering, University of Tehran, IRAN, 1999.

**Research interests:**

- Performance Assessment and Rehabilitation of Structures against Earthquake, Fire and Explosion.
- Nonlinear Numerical Analyses (Using FE and Mesh-less Methods)
- Computational Plasticity and fracture mechanics.
- Numerical Large Deformation Modeling.
- Impact and Explosion Modeling and Loading.
- Construction industrialization.
- Material Constitutive Laws.

**Courses taught:**

- Seismic Rehabilitation of Structures (Gr.)
- Finite Element Method (Gr.)
- Theory of Elasticity and Plasticity (Gr.)
- Advanced Steel Structures (Gr.)
- Structural Maintenance and Retrofitting (U.G.)
- Finite Element Method (U.G.)

- Analysis of structures I & II (U.G.)
- Concrete Technology (U.G.)
- Construction Materials (U.G.)
- Construction Methods (U.G.)
- Dynamics (U.G.)

### **ISI journal papers:**

- H. Ostadhossein, S. Lotfi, Performance of infill stiffened steel panel against blast loading, Latin American Journal of Solids and Structures, Vol. 15, No. 2 (2018) (15 pages).
- H. Ostadhossein, S. Mohammadi, A stabilized particle method for large deformation dynamic analysis of structures, International Journal of Structural Stability and Dynamics, Vol. 12, No. 4 (2012) 1250026 (28 pages).
- H. Ostadhossein, S. Mohammadi, Unsteady fluid-moving solid interaction by a kernel based particle method, International Journal for Numerical Methods in Biomedical Engineering, Vol. 26 (2010) 1596-1603.
- H. Ostadhossein, S. Mohammadi, Analysis of shock wave reflection from fixed and moving boundaries using a stabilized particle method, Particuology, Vol. 7 (2009) 373–383.
- H. Ostadhossein, S. Mohammadi, A field smoothing stabilization of particle methods in elastodynamics, Finite Elements in Analysis and Design, Vol. 44 (2008) 564-579.

### **ISC journal papers:**

- H. Ostadhossein, S. M. H. Kamel, M. Henteh, Performance Comparison of Concrete MRF Designed by Direct Displacement Based and Force Based Methods, Journal of Structural and Construction Engineering, 2017.
- H. Ostadhossein, S. M. H. Kamel, M. Henteh, Differences of FBD and DDBD for MRF Design, Bulletin of Earthquake Science and Engineering, 2018.
- H. Ostadhossein, M. Omid, M. Henteh, Comparison of Damage Indexes in Performance Assessment of Special Concrete Moment Resisting Frames, Journal of Structural and Construction Engineering, 2018.

### **Conference papers:**

- F. Musavinejad, H. Ostadhossein, PBPD of MRF and Comparison with FBD, IRAST 2017. (In Persian).
- S. M. H. Kamel, H. Ostadhossein, A. Pachenari, Comparison of DDBD and FBD for MRF Design (Part I), 2017. (In Persian).

- S. M. H. Kamel, H. Ostadhossein, A. Pachenari, Comparison of DDBD and FBD for MRF Design (Part II), 2017. (In Persian).
- H. Ostadhossein, S. Lotfi, Performance of sacrificial infill steel panel against impulsive blast loading, IRAST 2017. (In Persian).
- H. Ostadhossein, S. Lotfi, Steel plate behavior against blast loading, 5th National and 1st International Conference on Modern Materials and Structures in Civil Engineering, 2016. (In Persian).
- H. Ostadhossein, M. Ghafouri, H. Alinaghipoor, Study on physical and mechanical specifications of gypsum for industrialization, 5th National and 1st International Conference on Modern Materials and Structures in Civil Engineering, 2016. (In Persian).
- H. Ostadhossein, Using CSPM mesh-free method in crack propagation of brittle materials, 10th International Congress on Civil Engineering, 2015. (In Persian).
- H. Ostadhossein, S. Farahani, Efficiency of Iranian seismic code to satisfy expected structural performance level, 10th International Congress on Civil Engineering, 2015. (In Persian).
- A. Sharifi, H. Ostadhossein, Seismic analysis of above ground structures on tunnel location, 10th International Congress on Civil Engineering, 2015. (In Persian).
- E. Marashi, H. Ostadhossein, Crack propagation in concrete massive dams. 8th National Congress on Civil Engineering, 2014. (In Persian).
- B. Moghaddam, H. Ostadhossein, Excavation effect on surrounding structures damage, 8th National Congress on Civil Engineering, 2014. (In Persian).
- M. Shabkkan, H. Tahghighi, H. Ostadhossein, Seismic analysis of pile group considering nonlinear kinematic soil-pile interaction, 8th National Congress on Civil Engineering, 2014. (In Persian).
- M. Shabkkan, H. Tahghighi, H. Ostadhossein, Seismic nonlinear analysis of single pile in layered soil, 8th National Congress on Civil Engineering, 2014. (In Persian).
- H. Ostadhossein, Performance evaluation of industrial structures against blast, 7th National Congress on Civil Engineering, 2014. (In Persian).
- H. Ostadhossein, Dynamic Increase Factor Estimation for Concrete Tensile Strength Using a Particle Method, XII International Conference on Computational Plasticity - COMPLAS 2013, Barcelona, Spain.
- H. Ostadhossein, S. Mohammadi, A new approach for elimination of dissipation and dispersion errors in particle methods, 3rd European Conference on Computational Methods (ECCM), Lisbon, Portugal, 2006.
- H. Ostadhossein, S. Mohammadi, Improving time integration method of CSPM mesh-less method in two dimensional elasto-dynamic problems, ECCOMAS thematic conference on mesh-less methods, Lisbon, 2005, D35.1-D35.4
- H. Ostadhossein, S. Mohammadi, Improvements of the mesh-less SPH method for solving dynamic systems. 2nd National Civil Engineering Conference, Tehran, Iran, 2005. (In Persian).

## Journal referee

Finite Elements in Analysis and Design, Elsevier.  
Journal of Structural and Construction Engineering.  
Civil and Environmental Engineering Journal. (Tabriz University)  
Civil and Environmental Engineering Journal. (Amirkabir University)

## Research project

- Behavior of Steel Concentrically Braced Frames, Tehran University, Funded by BHRC, 2002.
- Gas- Solid Interaction Modeling Using Particle Method Funded by TRIDI, PhD Thesis, Tehran University, 2007.
- Passive Defense of Water treatment Structures, Funded by TRIDI, Tehran University, 2008.
- Blast Effect on Buried Structures, Funded by TRIDI, Tehran University, 2009.
- Crack Propagation in Brittle Materials Using Mesh-less Particle Method. Funded by Kashan University, 2012.
- Crack tip Singularity evaluation Using Mesh-less Particle Method. Funded by Kashan University, 2013.
- High supervisor in design and construction of development of Imam Hossein holy shrine in Karbala city (Part 1). Funded by Tarh-e-Jame Co, 2017.
- RF-4E phantom aircraft penetration estimation due to impact on safety structures of IR-360 power plant, Funded by MASNA Company, 2018.
- High supervisor in design and construction of development of Imam Hossein holy shrine in Karbala city (Part 2). Funded by Tarh-e-Jame Co, 2018.

## Supervised MSc Thesis

- Performance evaluation of steel moment resistant frames designed according to Iranian seismic code, S. Farahani, 2014.
- Dynamic crack initiation and propagation in massive dams due to earthquake, E. Marashi, 2014.
- Effect of excavation on existing adjacent buildings, B. S. Moghaddam, 2014.
- Seismic analysis of above ground structures constructed on subway tunnels, A. Sharifi, 2015.
- Buckling resistant braced frames response modification factor estimation, A. Monjezi, 2015.
- Comparison of structural internal forces in equivalent static and dynamic time history, H. Fathipour, 2015.

- Performance evaluation of Iranian seismic code, H. Zarei, 2015.
- Concrete moment resistant frame performance evaluation against blast loading, S. Gogunani, 2015.
- Effect of damage index on structural performance evaluation, 2015, Mohsen Omid.
- Performance Evaluation of Moment Resistance Frame Under Fire Loading, M. Javadizade, 2016.
- Steel plate behavior against blast loading, S. Lotfi, 2016.
- Concrete structures design according to performance criteria, S. M. Kamel, 2016.
- Performance based steel design, F. Musavinejad, 2016.
- Comparison of concentric and eccentric bracing ductility, F. Jaladati, 2017.
- Fire effect on concrete structural elements, V. Jaafari 2017.
- Evaluation of two ends fixed hollow reinforced concrete beam capacity, Mudher Khazaal Salman, 2018.
- RF-4E phantom aircraft penetration estimation due to impact on safety structures of IR-360 power plant, A. Boluri, 2018.

### **Professional expertise**

- Structural design
- Performance based design
- Structural retrofitting
- Blast and impact loading and design

### **Professional projects**

- Design of underground shelters
- Design of equipment foundation
- Design of concrete and steel structures
- Management of civil and structural design of more than 300000 m<sup>2</sup>.