Masoud Hoseinzadeh Asl

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Faculty of Civil Engineering,
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Google scholar: https://scholar.google.com/citations?user=MsA5InYAAAAJ&hl=en&oi=ao

Research Interest

Finite element modelling of steel & reinforced concrete structures

Study of the seismic and non-linear behavior of structures

Dynamic Modeling and Analysis of Structures

Seismic behavior of steel moment connection

Performance-Based Design of Steel and Concrete Structures

Optimization Methods and Machine Learning

Steel plate shear walls

Steel bracing

Education

1999-2003	B.Sc. in Civil Engineering, University of Tabriz, Tabriz, Iran (**Ranked first among 50**).
2003-2005	M.Sc. in Structural Engineering, Sharif University of Technology, Tehran, Iran (**graduated with High Honors**). Thesis: "Experimental study of a brick masonry building with the use of shaking table and numerical modeling of its seismic behavior."
2005-2011	Ph.D. in Structural Engineering, Sharif University of Technology, Tehran, Iran (**graduated with High Honors**). Thesis: "Inelastic Modeling of Mixed Hinge in Deformation Space and its Application in the Analysis of Frames.".

Awards and Honors

2003 ***Ranked first*** among 50 students in the Department of Civil Engineering, University of Tabriz, for undergraduate studies in 2003.

2003 Attained the ***8th rank*** in the national entrance examination for a master's degree in civil engineering in Iran ***among over 230,000 participants***, showcasing my commitment to excellence in the field.

2003 Achieved the ***11th rank*** in the annual National Civil Engineering Olympiad in Iran in 2003, outperforming more than 300,000 civil engineering undergraduate students

2008 ***Full Scholarship Recipient*** for Ph.D. Studies
Issuing Organization: Faculty of Civil Engineering, University of Tabriz
Description: Full scholarship for Ph.D. studies at Sharif University of Technology, including a monthly stipend, for a duration of 3 years.

2020 Recognized as an ***exemplary teacher*** at the University of Tabriz, distinguished among 819 university members across all fields of sciences, showcasing my commitment to excellence in education

Patent

2021 Title: "Steel Plate Shear Wall with Replaceable Earthquake Damage-Control Elements"
Patent Holder: A. Seifi Asl, M. Hoseinzadeh Asl
Patent Type: Iranian Patent
Registration Number: IR Registration No: 102268
Year: 2021

Books

2023 M. Hoseinzadeh Asl, “Design of Steel Structures”, Omransara, 2023 (*In Persian Language*).

2022 M. Hoseinzadeh Asl, “Design of Concrete Structures”, Omransara, 2022 (*In Persian Language*).

2022 M. Hoseinzadeh Asl, “Structural loading”, Omransara, 2022 (*In Persian Language*).

2017 M. Hoseinzadeh Asl, et all, “Instructions for Seismic Evaluation and Rehabilitation of Conventional Existing hybrid Masonry and Frame Buildings", Islamic Republic of Iran Plan and Budget Organization, Road, Housing & Urban Development Research Center, No. 744, 2017 (*In Persian Language*).

Journal Publication

2023 Khani, Reza, Yousef Hosseinzadeh, and Masoud Hoseinzadeh Asl. "Improving the T-stub component behavior tied to a rigid base." *Journal of Constructional Steel Research* 211 (2023): 108199.

2023 Es'haghioskui, Fatemeh, Masoud Hoseinzadeh Asl, Yousef Hosseinzadeh, and Eutiquio Gallego. "Experimental and numerical investigation of a new type of steel plate shear wall with diagonal tension field guiding stiffeners." *Journal of Building Engineering* (2023): 107181.

2023 Khani, Reza, Yousef Hosseinzadeh, and Masoud Hoseinzadeh Asl. "Investigating the prying force magnitude and location in the T-stub connection based on the energy method." *Engineering Structures* 280 (2023): 115655.

2022 Seifi Asl, A., Hoseinzadeh Asl, M. " Experimental and numerical study on the seismic behavior of steel plate shear wall with reduced web section beams", Journal of Building Engineering (2022), Vol. 46.

2021 Khalilzadehtabrizi, S., Seifi Asl, A., Hoseinzadeh Asl, M. "Measurement of deformation patterns in steel plate shear walls subjected to cyclic loading based on multi-target digital image correlation (MT-DIC)", Structures (2021), Vol. 33, pp. 2611-2627

2020 Hoseinzadeh Asl, M. and Jahanian, M. "Behaviour of Steel Deep Beams in Moment Frames with Web Opening Subjected to Lateral Loading", International Journal of Steel Structures (2020), Vol. 20, pp.1482-1497.

2019 Hoseinzadeh Asl, M., Saeidzadeh, M., and Momenzadeh, S. "Evaluation of Friction Strength Loss in Endplate Moment Connections with Skewed Beam", International Journal of Steel Structures (2019), Vol. 19, pp. 1767–1784.

2019 Hoseinzadeh Asl, M., Farivar, B., and Momenzadeh, S., "Investigation of the rigidity of welded shear tab connections", Engineering Structures (2019), Vol. 179, pp. 353-366.

2017 Hoseinzadeh Asl, M., and Safarkhani, M. "Seismic behavior of steel plate shear wall with reduced boundary beam section", Thin-Walled Structures (2017), Vol. 116, pp .169-179.

2017 Momenzadeh, S., Kazemi, M.T., and Hoseinzadeh Asl, M., "Seismic Performance of Reduced Web Section Moment Connections", International Journal of Steel Structures (2017), Vol. 17, pp. 413-425.

2011 Kazemi, M.T., and Hoseinzadeh Asl, M. "Damage-Plasticity Model for Mixed Hinges in Steel Frames", Journal of constructional steel research (2011), Vol. 67, pp. 1272-1281

2011 Kazemi, M.T., and Hoseinzadeh Asl, M. "Modelling of Inelastic Mixed Hinge and its Application in Analysis of the Frames with Reduced

Beam Section", International Journal of Steel Structures (2011), Vol. 11(1), pp. 51-63.

2010 Kazemi, M.T., Hoseinzadeh, M., Bakhshi, A., and Rahimzadeh Rofooei, F. "Shaking Table Study of a Full- Scale Single storey Confined Brick Masonry", Sientia Iranica, (2010), Vol 17(3), pp. 184-193.

Conferences

2022 M. Hoseinzadeh Asl, S. Gholivand, "Evaluation of seismic behavior of connections in semi-supported steel shear walls", Seventh International Conference on Civil, Structural and Seismic Engineering, Tehran, Iran, 19 June 2022.

2020 A. Mousavi, M. Hoseinzadeh Asl, "Investigation of concentric braced frame behavior with special shear panel", National Conference on Civil, Architecture and Information Technology in Urban Life, Nov 2020.

2018 V. Ghaffari, M. Hoseinzadeh Asl, "Effect of the Middle Link Beam Construction Imperfection on the Behavior of Steel Column-Tree Moment Connections", International Conference on civil engineering, architecture and urban development management, Tehran, Iran, Dec 2018.

2012 Momenzadeh, S. B., Kazemi, M. T., and Hoseinzadeh Asl "Study of Reduced Beam Section Connections with Web Opening", 15 WCEE, Lisbon, Portugal, 2012

2010 Hoseinzadeh, M. and Kazemi, M.T., "Shaking Table and Analytical Study of a Brick Masonry Building with Confined Walls", 10th East Asia Pacific Conference on Structural Engineering and Construction, 3-5 August 2006, Bangkok

2010 Kazemi, M.T., and Hoseinzadeh Asl, M. "Analytical Study of the Frames with Reduced Beam Section using Inelastic Mixed Hinge Element", Proceedings, 14th European Conference on Earthquake Engineering, Ohrid: Macedonia, 2010, paper No. 1369.

2009 Kazemi, M.T., Erfani, S., and Hoseinzadeh Asl, M. "VM, shear-flexural, link element for seismic analysis of steel frames" Proceedings of a U.S.-Iran Seismic Workshop June 29–July 1, 2009 Irvine, California, pp. 229-238.

2006 Honarbakhsh, T., Kazemi, M.T., Hoseinzadeh, M."Seismic Rehabilitation of Masonry School Buildings Using a Single Layer of Reinforced Shotcrete", First European Conference on Earthquake Engineering and Seismology, Geneva, Switzerland, 3-8 September 2006

Service to Profession

Journal of Building Engineering, reviewed 6 papers

Engineering Structures, reviewed 2 papers

Thin-Walled Structures, reviewed 5 papers

Journal of Civil and Environmental Engineering, reviewed 15 papers

Amirkabir Journal of Civil Engineering, reviewed 4 papers

Laboratory experience

Sharif university of Technology, Department of Civil Engineering, Shaking Table Laboratory

My Master's thesis focused on experimental research, specifically investigating the seismic behavior of masonry buildings. The cornerstone of this research was the construction of a one-story masonry building model, which served as a critical element in our experimentation. In the laboratory setting, we employed a substantial ***4m x 4m shaking table*** to subject the building to simulated seismic forces. This extensive testing phase, lasting nearly a year, allowed for a comprehensive assessment of the structural response to ground motion, providing essential insights into the behavior of masonry structures during earthquakes (2003-2004)

University of Tabriz, Department of Civil Engineering, Structural Engineering Laboratory

I provided guidance and supervision to my Ph.D. student for an experimental program in the Structural Engineering Laboratory at the University of Tabriz. The program involved testing a 1:6 scale steel plate shear wall with tension field guiding stiffeners under cyclic loading (2022-2023).

In another role, I supervised my M.S. students in the experimental program at the University of Tabriz's Structural Laboratory. This oversight included the fabrication and testing of five 1/3-scale steel plate shear wall specimens subjected to quasi-static cyclic loading (2020-2022).

Additionally, I collaborated with a colleague on a research project investigating the magnitude and location of prying forces in T-stub steel connections. Our study involved the testing of three specimens, aiming to gain insights into the influence of thickness on the mode's behavior (2022-2023).

Membership

Since 2017

Member of the permanent committee of *"Iranian Code of Practice for Seismic Resistant Design of Buildings, Standard No. 2800"* www.std2800.ir;

Since 2020	Committee member of "*Iranian Committee for the Engineering Software, concrete committee*", www.iesc.bhrc.ac.ir
Since 2022	Committee member of "*Iranian Committee for the Engineering Software, Steel committee*", www.iesc.bhrc.ac.ir
Since 2016	Member of American Institute of Steel Construction (AISC)

Computer Skills

More than 12 years of experience	ANSYS finite element software; my experience is mostly focused on modeling steel structures and also on concrete parts.
	Proficient in Visual C++ Skilled in MatLab for structural design optimization.
More than 15 years of experience	Proficient with SAP2000, ETABS, SAFE, Auto Cad; In addition to the experience of designing steel and concrete structures, I have also a long-term experience of teaching ETABS and SAP to engineers.
	Skilled in using MS Office (Word, Excel); Most of my design calculations, such as connection design, is done by coding in Excel.

Teaching Experience

Sharif University of Technology	Design of Steel structures I (2007-2011)
	Design of Steel structures II (2007-2011)
	Building Materials and Concrete Technology (2008-2010)
	Statics (2008-2009)
	Strength of materials (2008-2009)
	Structural Analysis I (2007-2009)
	Structural Analysis II (2007-2011)
Islamic Azad University (South Tehran Branch)	Structural Design of Concrete Structures I (2012)
	Structural Analysis I (2012)
	Structural Analysis II (2012)
University of Tabriz	Design of Concrete structures I (2014 to present)
	Design of Concrete structures II (2014 to present)
	Structural loading (2012-2013)

Computer Software Applications in Civil Engineering (2012-2013)

Structural Analysis (2012-2014)

Numerical Analysis (2012-2013)

Structural Analysis I (2012-2014)

Structural Analysis II (2012-2013)

Seismic design of Masonry structures (2014 to present)

Design of Steel Structures (2012-2013)

Design of prestressed concrete Structures, graduate students (2014 to present)

Inelastic Analysis of structures, graduate students (2018 to present)

Construction Engineering Organization

The speaker of workshops, mainly related to demonstration of Iranian seismic code and its applications in design of structures, and also design of concrete and steel structures since 2014 to present, which were organized by Construction Engineering Organization of different cities and provinces all over the Iran (more than 50 one-day, or multiple day workshops).

Some of Supervised Theses

University of Tabriz

M. Amirnovin, “Numerical study of the effect of beam-column panel zone thickness on the seismic behavior of steel plate shear wall” (2023)

Y. Rad, “Numerical study of seismic behavior of steel plate shear wall with curved stiffeners” (2022)

A., Haghayegh, “Investigation of the seismic performance of beam to column rigid connection with collar plate stiffener” (2020).

M., Yousefzadeh Fard, “Performance Evaluation of Steel Plate Shear Walls Stiffened with Eccentric Brace” (2020).

A., Taghizadieh, “The Study of the Seismic Behavior of Rigid Beam to Column Connections with Reduced Web Section” (2011).

B., Farivar, “Investigation of the rigidity of shear tab connections in steel girders” (2014)

H., Golabi, “Performance evaluation and comparison of Side Plate connection with conventional connections in steel moment” (2015)

M., Safarkhani, “Investigation of seismic behavior of steel shear walls with discontinuous connection” (2016)

F., Hassani, “Performance Evaluation of Steel Plate Shear Walls with Weakened Horizontal Boundary Elements” (2016)

M., Jahanian, “Investigation of Seismic Behavior of Steel Moment Frames with Opening in Beam Web” (2017)

S., Ferdoskhah Yeghaneh, “Study of the behavior of secondary concrete beam connection to main beam without end bend of top bars” (2018)

V. Ghaffari, “Effect of the Middle Link Beam Construction Imperfection on the Behavior of Steel Column-Tree Moment Connections” (2018)

A., Rasooli, “Performance evaluation of steel plate shear walls with perforation in the wall” (2020)

F., Samadinezhad “Numerical investigation of the seismic behavior of steel plate shear walls with perforated horizontal boundary elements” (2020)

A., Sefi Asl, “Experimental and numerical study of steel plate shear wall with replaceable earthquake damage-control elements” (2020)

Professional Experience in Structural Engineering

ARASH NIAKI & ASSOCIATES, Ontario, Canada
2012 up to now

Spearheaded structural design projects, primarily focusing on steel frame structures.
Notable Projects:

- Hollow Tree Reservation Structure, Vancouver: Engineered the structural design.
- Wind Screens and Ceiling Panels: Designed diverse wind screens and ceiling panels under varying wind loads.
- Complex Structural Steel Stairs: Innovatively designed intricate structural steel stairs.
- Collingwood City Gateway: Led the design team for the city's gateway project.
- Tall Building Roof Fall Arrest Anchors: Engineered roof fall arrest anchor systems for high-rise buildings.
- Roof Steel Joist Detailing: Detailed and designed structural roof steel joists.

Parsaz Consulting Engineering Co, Iran
2004 up to now

Acted as a structural designer and consultant, overseeing a wide range of concrete and steel projects.
Notable Projects:

- Ghoo Middle East Diamond Complex, 35-story Steel Building: Designed a special steel moment frame in compliance with AISC-360 and AISC-341.
- Lashkarak Commercial Complex, 12-story Concrete Building: Engineered a special concrete moment frame per ACI-318

Ista Pol Nagsh Nama Consulting Engineering Co, Iran 2015 up to now	Key contributions include the design of more than 50 buildings, including residential and industrial structures. Notable Projects: • 16-story Residential Building: Employed a dual system of concrete special moment frame and special concrete shear walls. • Tejari Metro Commercial Complex: Designed multiple sections with dual concrete systems. • Firouze 5-star Hotel: Designed a 10-story 5-star hotel with a special concrete moment frame. • Alax Factory Warehouse: Engineered a 2-story steel moment frame structure.
Behin Tarh Banaye ark Consulting Engineering Co, Iran 2015 up to now	Collaborated on numerous projects as both designer and consultant. Notable Projects: • Management Building of Agricultural Bank of East Azarbaijan Province: Designed an 11-story steel moment frame building. • Chanlibel 5-star Hotel: Engineered a 17-story building (including 4 underground levels) with a special steel moment frame spanning approximately 50,000 square meters.