Curriculum vitae of ALIREZA PACHENARI

Assistant Professor Department of Civil Engineering University of Kashan 6 km Ghotbravandi Blvd., Kashan

Email: <u>Pachenaria@kashanu.ac.ir</u> <u>alirezapachenari@yahoo.com</u>

• https://faculty.kashanu.ac.ir/pachenaria/en

Tele: +983155912425 +989125486287





Education:

2007	B.S. Civil Engineering, Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran
2009	M.S. Structural Engineering, Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran, Prof. Keramati, Advisor
	(GPA: 19.75/20, PhD Thesis: Excellent Grade) MS Thesis: Progressive Collapse in Reinforced Concrete Structures with Moment Resisting Frames
2014	Ph.D. Structural Engineering, Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran, Prof. Keramati, Advisor
	(GPA: 19/20, PhD Thesis: Excellent Grade) PhD Thesis: Progressive Collapse in RC buildings by successive removal of columns and their effect on collapse of the structure
Honors & Aw	vards:
2003-2007	High Honor and Top-Rank in B. S Degree

- 2007 Offered M.Sc. in structural Engineering major without passing the entrance exam
 2009 High Honor and Top-Rank in M. S Degree
- 2009 received Best-Master Thesis of the year award in structural (and earthquake) enginnering, Tehran Polytechnic
- 2010-2012 National Elites Foundation Facilities for Military Service Period
 - 2018 Lecturer of the Year of the Faculty of Engineering (2018), University of Kashan

Research Interests:

Compressive Arch action in RC members Failure mechanisms of slab structures Progressive collapse Nonlinear analysis of structures Conductive concretes Recycled aggregate concretes Settlement of structures

Selected Journal Publications:

- 1. An analytical model on compressive arch action capacity of 3D beamcolumn sub-assemblages under failure of one or two adjacent interior columns, *Engineering Failure Analysis*, 2020.
- 2. Analytical study of flat slab collapse mechanisms due to overloading in a cluster of exterior panels, *KSCE Journal of Civil Engineering*, 2019.
- 3. Numerical Study on the Behavior and Bearing Mechanism of Flat Slabs in Column Loss Events, *Advances in Civil Engineering*, 2021.
- 4. Resistance of Recycled Aggregate Concrete (RAC) Subjected to Drying-Wetting Cycles to Attack of Magnesium and Sodium Sulfates. *Journal of Engineering*, 2020.
- 5. Stress distribution and failures in partially overloaded support-removed flat slab floors, *International Journal of Numerical Methods in Civil Engineering*, 2018.
- 6. Investigation of progressive collapse in intermediate RC frame structures, *The Structural Design of Tall and Special Buildings*, 2013.
- 7. A Method for Modeling Successive Removal of Columns in Macromodeling Frameworks, *Structural Engineering International*, 2014.
- 8. Progressive collapsed zone extent estimation in two-way slab floors by yield line analysis, *Magazine of Concrete Research*, 2014.
- 9. Influence of increasing differential settlement under columns on a RC frame response considering different support conditions, *Journal of Structural and Construction Engineering*, 2018.
- 10. Load redistribution pattern in a RC moment frame due to excavationinduced 3D ground surface settlement profiles, *Journal of Structural and Construction Engineering*, 2021.
- 11. Form Optimization of Truss Columns with Inspiration from the Helix Bone Structure, *Journal of Iranian Architecture & Urbanism*, 2019.

Selected conference papers:

Evaluation of progressive collapse potential in a steel frame, 8th International Congress on Civil Engineering (ICCE), Shiraz, Iran, 2009.

Assessment of a RC frame response to differential settlements in various column locations, *10th National Congress on Civil Engineering*, Tehran, Iran, 2017.

Effect of Geometric Form and Curvature of Dome Shells on Structural Performance, *International Conference on Architecture and Mathematics, Kashan, Iran, 2017.*

Progressive collapse assessment of structural frames due to successive removal of two columns using subsequent analyses – part 1: Theory, *10th International Congress on Civil Engineering (ICCE)*, Tabriz, Iran, 2015.

Nonlinear dynamic analysis using one-dimensional subspace, 10th International Congress on Civil Engineering (ICCE), Tabriz, Iran, 2015.

Comparison between concrete moment frames designed with direct displacementbased and force-based design methods-Part 1: Theory and Design, *3rd International conference on structural engineering*, Tehran, Iran, 2017.

Comparison between concrete moment frames designed with direct displacementbased and force-based design methods-Part 2: Performance comparison, *3rd International conference on structural engineering*, Tehran, Iran, 2017.

Influence of non-concurrency in removal of non-adjacent columns on progressive collapse potential of a RC frame via subsequent nonlinear analyses, *3rd International congress on civil engineering, architecture and urban development,* Tehran, Iran, 2015.

Books

2018 TECHNICAL ENGLISH FOR CIVIL AND ENVIRONMENTAL ENGINEERING: reading comprehension, writing style, research software, and about 700 words you should learn, Publisher: DanshAmooz (for Persian students)

Participation in Codification of National Standards

2012 Guide of The ninth chapter of national building cod-Ver.1390

Professional and executive positions:

2007-2010	Participation in structural design Team for Mashhad city hall,
	Mashhad Shohada square project (Tajeer Consulting Engineers)
2009-2010	Participation in structural design of many private construction projects
2010-Now	Tehran Construction Engineering organization
2011-2016	lecturer, Department of Civil Engineering, University of Kashan
2016-Now	Assistant Professor, Department of Civil Engineering, University of
	Kashan

Teaching Experience

2012-Now	Steel Structures (1), Department of Civil Engineering, University of
	Kashan
2013-Now	Steel Structures (2), Department of Civil Engineering, University of
	Kashan
2013-Now	Steel Structures project, Department of Civil Engineering, University
	of Kashan
2016-2020	Estimation & cost & project, Department of Civil Engineering,
	University of Kashan
2013-Now	Strength of Materials 2, Department of Civil Engineering, University
	of Kashan
2013-Now	Dynamics, Department of Civil Engineering, University of Kashan
2013-2014	Foundation Engineering, Department of Civil Engineering, University
	of Kashan
2017-Now	Construction Material & Lab, Department of Civil Engineering,
	University of Kashan
2012-2017	Loading, Department of Civil Engineering, University of Kashan
2017-Now	National Building Regulations, Department of Civil Engineering,
	University of Kashan
2014-Now	Inelastic Analysis of structures, Department of Civil Engineering,
	University of Kashan
2014-Now	Advanced concrete structures, Department of Civil Engineering,
	University of Kashan

Technical Reviewer

Journal of building engineering (Elsevier)

The structural design of tall and special buildings (Wiley)

,...

Computer Skills

Structural engineering/Finite element Software ABAQUS OPENSEES SAP ETABS SAFE

General

Mathematica Matlab (m-file) Autocad