

Mehrdad Mahoutian

Curriculum Vitae



PERSONAL DETAILS

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EDUCATION

2005-2007 **Master of Civil Engineering- Structural Engineering**
School of Civil Engineering, Sharif University of Technology,
Iran
GPA: 3.7 (17.56/20)

M.Sc. Thesis subject: Behavior of channel shear connectors
embedded in fiber reinforced concrete and its use as a seismic
dissipation device

Supervisor: Dr. Sh. Maleki

In my thesis, some push out tests performs on the standard push
out specimens. Channel shear connectors and fiber reinforced
concrete were used in the specimens. The results of push out test
were used for investigating the channel shear connector when is
subjected to the low fatigue load. Also, results were used to
suggest the new device which dissipates the seismic energy of
earthquake.

2001-2005 **Bachelor of Civil Engineering**
School of Civil Engineering, University of Tehran, Iran
GPA: 3.3 (16.67/20)

1997-2001 **High school, Physics and Mathematics**
Energy Atomi, Tehran, Iran
GPA: 3.9

QUALIFICATIONS

- 2007 Sharif University of Technology
Master of Civil Engineering- Structural Engineering
- 2005 University of Tehran
Bachelor of Civil Engineering

ACADEMIC EXPERIENCE

- 2005-2007 **Research Assistant**
Solid mechanics
Sharif University of technology
- 2005-2007 **Research Assistant**
Experimental modeling
Sharif University of technology
- 2005-2007 **Research Assistant**
Shear connector in the composite deck of bridges,
Sharif University of technology
- 2005-2007 **Research Assistant**
Engineering Cementitious Composite (ECC),
Sharif University of technology
- 2004-2007 **Research Assistant**
Lightweight aggregate concrete,
Construction Materials Institute, University of Tehran
- 2004-2007 **Research Assistant**
Self compacted concrete,
Construction Materials Institute, University of Tehran
- 2004-2007 **Research Assistant**
Gas permeability of concrete,
Construction Materials Institute, University of Tehran
- 2004-2007 **Research Assistant**
Fiber reinforced concrete,
Construction Materials Institute, University of Tehran
- 2004-2007 **Research Assistant**
High-performance fiber reinforced cement composites,
Construction Materials Institute, University of Tehran

EMPLOYMENT EXPERIENCE

- 2006-2007 **Technical Manager**
Construction Materials Institute (CMI), University of Tehran
- 2005-2007 **Technical Consultant**
Paya Shive Pars Company Ltd
- 2005-2006 **Internship assistant**
Iran Khodro Company Ltd

PROFESSIONAL ACTIVITIES

- 2006-winter Executive manager of the first Self Compacting Concrete Workshop in Iran
- 2006-2007 Providing the gas permeability (criteria of durability) of concrete's pamphlet
- 2006-2007 Producer of the first instructive collection of Self Compacting Concrete proceeding in Iran
- 2006-2007 Pamphlet's producer of structural lightweight aggregate concrete

PROJECTS I WAS INVOLVED

- 2007 Investigating cementitious grouts from the view point of shrinkage and initial expansion to be used in A.S.P. 54 story concrete structure-Tehran-Iran
- 2007 Investigating Durability of Concrete Structures in Qeshm Island, Persian Gulf, Iran (Airport Control tower, Qeshm Free zone Organization Center structure and Boostan residential complex) from the view point of Chloride and Carbonation induced corrosion

- 2006 Investigating applying lightweight aggregate concrete element in the mine instead of using wood element, Tehran, Iran
- 2006 Investigating shotcrete for 3D panel elements in the severe aggressive condition, Gheshm, Iran
- 2006 Investigating high strength lightweight aggregate concrete using Leca and Pumice, Tehran, Iran
- 2006 Investigating using Self Compacted Concrete in the column of the bridge, Karaj, Iran
- 2005 Investigating using Self Compacted Concrete in the foundation of the special building, Tehran, Iran
- 2005 Investigating aggregates of the north of Iran from the view point of Alkali Silicate Reaction to be used in Cement Company Gilan-Iran

OUTCOMES-PRODUCTS OF RESEARCH

Published

- 1- Mahoutian, M., Libre, N., A., Moradi, Farid, Shekarchi, M. “Durability properties of fiber reinforced lightweight aggregate concrete”, improving infrastructure worldwide, IABSE, 2007, Weimar, Germany.
- 2- Bakhshi, M., Mahoutian, M., Shekarchi M., The Gas Permeability of Concrete and Its Relationship with Strength, fib - 2nd International Congress, 2006, Naples, Italy.
- 3- Maleki. Sh., Mahoutian, M, “ Push-out tests on polypropylene concrete”, PI-primer conference, 2007, Singapore.
- 4- Mahoutian, M., Bakhshi, M., Shekarchi M., Effect of High Reactivity Metakaolin on Gas Permeability of High Performance Concrete, Ninth CANMET/ACI International Conference on Fly Ash, Silica Fume, Slag And Natural Pozzolans In Concrete, 2007, Warsaw, Poland
- 5- Mahoutian, M., Bakhshi, M., Shekarchi M., Effect of Air-Entraining Admixtures On Gas permeability of Concrete, Ninth CANMET/ACI International Conference on Recent Advances in Concrete Technology, 2007, Warsaw, Poland.

- 6- Yadegaran, I., Mahoutian, M., Shekarchi, M., Analysis of a 'self-compacting concrete' structure with considering the shrinkage effect, The third international conference on structural engineering, mechanics and computation, 2007, cape town, sought Africa.
- 7- Mahoutian, M. Yadegaran, I, Lotfi, R., Shekarchi. M., Nonlinear analysis of a fiber reinforced self-compacting concrete structure The third international conference on structural engineering, mechanics and computation, 2007, cape town, sought Africa.
- 8- Emdadi, A. Libre, N, Mohebbi, A.R., Yekta. S., Mahoutian, M., " Self compacting concrete incorporating high volume of raw materials, The third international conference on structural engineering, mechanics and computation, 2007, cape town, sought Africa
- 9- Mahoutian, M., Yadegaran. I., Libre., N., A., Shekarchi, M., comparison between different methods used for evaluation of self compacting concrete's stability, 5th Int. RILEM Symp. on SCC, 2007, Ghent, Belgium.
- 10- Yadegaran, I., Mahoutian, M., Shekarchi, M., Libre, N., A., effect of poly propylene fibers on shrinkage of self compacting concrete, 5th Int. RILEM Symp. on SCC, 2007, Ghent, Belgium.
- 11- Mahoutian, M., Libre, N., Emdadi, A., Shekarchi, M., "Effects of fibers on the physical properties of lightweight aggregate concrete", 7th international congress on Construction's Sustainable Option, 2008, Dundee, Scotland.
- 12- Farnam, y., Mahoutian, M., Shekarchi, M., "Experimental and numerical studies of impact behavior of fiber lightweight aggregate concrete", structures congress, ASCE, 2008, Vancouver, Canada.
- 13- Layysi, H., Mahoutian, M., Shekarchi, M.," durability properties of polypropylene reinforced concrete" 11DBMC International Conference on Durability of Building Materials and Components, 2008, Istanbul, Turkey.
- 14- Shekarchi, M., Bakhshi, M., Mahoutian, M., "investigation of gas permeability coefficient of concrete", second conference of concrete and development, 2005, Tehran, Iran.
- 15- Shekarchi, M. Mahoutian, M.," investigation of impact strength of lightweight aggregate concrete", 3rd national conference of civil engineering, 2007, Tabriz, Iran.
- 16- Shekarchi, M. Mahoutian, M., Libre, N., Yekta, S.," comparative between the effect of Pumice and Leca on the the mechanical properties of fiber reinforced lightweight aggregate concrete", 3rd conference of civil engineering, 2007, Tabriz, Iran.
- 17- Shekarchi, M. Mahoutian, M., Libre, N.,"calculation of fracture energy of light weight aggregate concrete with notched cylindrical beam", 3rd conference of civil engineering, 2007, Tabriz, Iran.

- 18- Shekarchi, M., Libre, N., Mahoutian, M., Mehdipur, I., Vahdani, M., “investigation of effect of aggregate’s grading on the fresh and hardened properties of self compacted concrete”, the first workshop of self compacting concrete, 2007, Tehran, Iran.
- 19- Shekarchi, M., Libre, N., Mahoutian, M., Mohebbi, A.R., Yekta, S., “experiments of self compacted concrete and interpret of their results for evaluating the stability”, the first workshop of self compacting concrete, 2007, Tehran, Iran.
- 20- Raeismohamadiyan, M. Mahoutian, M., “production of prefabricate self compacted concrete elements for passing the TBM of Shiraz subway” the first workshop of self compacting concrete, 2007, Tehran, Iran.
- 21- Yadegaran, I, Mahoutian, M., “economic investigation of self compacted concrete”, the first workshop of self compacting concrete, 2007, Tehran, Iran.
- 22- M., Mahoutian, Shekarchi, Bakhshi, M., “gas permeability of concrete”, journal of Iranian concrete institute (ICI), NO. 24, Tehran, Iran.
- 23- Mahoutian, Moazmi, A., “usual application of shotcrete in civil construction”, journal of Iranian concrete institute (ICI), NO. 26, Tehran, Iran.
- 24- M., Mahoutian, Shekarchi, “freeze and thawing resistance of ultra high performance concrete”, journal of Iranian concrete institute (ICI), NO. 27, Tehran, Iran.
- 25- M., Mahoutian, Shekarchi, M., Hosseini, M., “the steel slag, a good substitution for natural aggregate in the road design”, journal of Iranian concrete institute (ICI), NO. 28, Tehran, Iran.

Under publication

- 1- Libre, N., A., Mahoutian, M., Emdadi, Arezu, Shekarchi, M., Ductility Properties of fiber reinforced light weight aggregate concrete, advance in concrete technology, 2007, Adelaide, Australia.
- 2- Shekarchi, M., Mahoutian, M., Pargar, F., Libre, N., “using steel fiber reinforced lightweight aggregate concrete in the pavement”, journal of Transportation, Tehran, Iran.

Abstract accepted

- 1- Maleki, Sh., Mahoutian, M.,” Low cycle fatigue behavior of channel shear connectors embedded in fiber reinforced concrete”, creating and renewing urban structures tall buildings, bridges and infrastructure, IABSE, 2008, Chicago, USA.

- 2- Maleki, Sh., Mahoutian, M., “Seismic energy dissipation with channel shear connectors for bridges”, creating and renewing urban structures tall buildings, bridges and infrastructure, IABSE, 2008, Chicago, USA.
- 3- Shekarchi, M., Mahoutian. M., Eftekhar, H., “Effect of fibers on gas permeability as the one of durability parameters in lightweight aggregate concrete”, 8th international conference on creep, shrinkage and durability of concrete and concrete structures, Ise-Shima, Japan.
- 4- Mahoutian, M., Yadegaran, I., Shekarchi, M., “Lateral Confinement in UHPC”, The second international symposium on ultra high performance concrete”, 2008, Kassel, Germany.

INTERNATIONAL CONFERENCE ATTENDANCE

IABSE, Symposium of improving worldwide structure, 2007, Weimar, Germany.

RESEARCH INTERESTS

Testing Materials and Laboratory works

- Push-out test
- Testing for coefficient of gas permeability concrete
- Testing for Alkali-silica reaction in concrete
- Various types of test on the Self Compacted Concrete (SCC)
- Impact test on the UHPFRC and lightweight aggregate concrete

Inspection and assessment

- Fatigue resistance of shear channel connector in fiber reinforced concrete
- Coefficient of gas permeability concrete
- Reology of self compacted concrete
- Effect of fibers on properties of lightweight aggregate concrete
- Impact strength of fiber reinforced concrete
- Effect of fibers on shotcrete
- Investigating the confinement on the ultra high performance concrete
- Fracture energy of lightweight aggregate concrete
- Freeze and thawing resistance of UHPC

Other interests

Waste Recycling in Civil Engineering (e.g. Slag)
Application of Chemical and Cementitious grouts
Shotcrete
Investigating chloride diffusion into concrete

SPEECH

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| 2006 | Gas permeability of concrete as a durability criteria, Iranian Concrete Institute monthly speech, Plan and Budget Organization, Tehran, Iran. |
| 2007 | Methods of mixture design of self compacted concrete, the first conference on the new advanced concrete technology, University of Bu-Ali, Hamedan, Iran. |
| 2007 | Impact strength of fiber reinforced lightweight aggregate concrete of, 3 rd national conference of civil engineering, University of Tabriz, Tabriz, Iran. |
| 2007 | Self compacted concrete's tests, 5th symposium of Concrete Day Conventions, University of Tehran, Tehran, Iran. |
| 2008 | executive points of lightweight aggregate concrete, 1th symposium of high building technology, Tehran, Iran |

AWARDS

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| 2003, Fall | ACI award winner 3rd place in the ACI cube competition, held along with ACI fall 2003 convention, Boston, United States of America |
| 2003, Winter | ICI award winner 4th place in the ICI cube competition, held along with Iranian Concrete Day convention, Tehran, Iran |
| 2003 | Honored by Dean of Faculty of Engineering for Research on High Performance Concrete. |
| 2005, Fall | Admission to the Graduate School of Civil Engineering at University of Tehran, without National Entrance examination because of honorable scientific achievements (Although I prefer to study in Sharif University of Technology) |

2006 Honored by Chairman of the Board of Directors of Iranian Society of Concrete for organizing Iranian concrete day conventions.

HONORS

2005 ranked 6th in the Graduate Entrance Exam. I ranked the 6th place among about 25000 civil engineering undergraduate participates in 2005.

2003 awarded of “**exceptional talent student**” from the leader of Iran.

2003 exempt from service duty in Iran due to “exceptional talent student”.

2002 translating the book entitles “fundamental physics” written by Halliday, Rezenick, Walker, Volume 1, Zakate Elm publication.

SERVICE TO THE UNIVERSITY OR EXTERNAL COMMUNITY

Contact with industry

2004-2005 I had involved in an internship project in the biggest car factory in Iran. Purpose of this project was optimization of the traffic in the factory’s streets.

2005 I had worked in two dam project in Iran. After calculated the gas permeability coefficient of Jegin and Seimare dam I had inspected the durability of concrete which was used in the dams.

2005 I had design the mixture proportion for the Kontrol Mechanic Company. This mixture design is used in the structural subway elements.

2005 I had investigated the aggregate of North of Iran against ASR. These aggregates were used in the construction of Cement Industry in the Rasht, Iran.

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- 2005-2007 I have been working with the Leca Company which produces lightweight aggregate in Iran. The means of this project is to obtain the structural lightweight aggregate for applying in the structure.
- 2005-2006 I designed the mixture design of self compacted concrete (SCC) for the bridge that is located in the Karaj. Due to especial reinforcement pattern the pier of this bridge should be made with SCC.
- 2005-2006 I had worked in the Iranian Mine Company's project. The goal of this project is to substitute the heavy concrete element for lightweight concrete element. Investigation showed that fiber reinforced lightweight aggregate is a good choice for this problem.
- 2006 I had worked with IRAN SADRA Company. Effect of air entrained and coating on the concrete which is used in the deck of Kalantri Bridge in Orumiye, Iran.
- 2007 I have been worked with SANO consultant engineers to investigate the possibility of using cementitious grouts to fill joints between steel stiffener plates and base concrete to increase load bearing capacity. The study aimed to introduce a very low shrink grout, with a sufficient initial expansion.

Promotion of Research centers

- 2004-2007 I am participating in the Construction Materials Institute within the University of Tehran.

PROFESSIONAL MEMBERSHIPS

- 2007-2008 IABSE, International Association for Bridge and Structure Engineering
- 2003-2004 ACI, American Concrete Institute
- 2003-2007 ICI, Iranian Concrete Institute
- 2005-2007 Alumni Association of Faculty of Engineering, University of Tehran

- 2006-2007 lightweight concrete professional committee, Iranian Concrete Institute
- 2008 Student member of ACI-213 committee, structural lightweight aggregate concrete

OTHER RELEVANT SKILLS

Programming Software

ABAQUS
ANSYS
LS-DYNA
SAP2000
ETABSE
SAFE
MATLAB 7.1

Operating Systems

DOS/ WINDOWS 3.1/ 9x / 2000 / XP

General Computer Programs

Microsoft Office 2007
AutoCAD 2006

LANGUAGE SKILLS AND PROFICIENCY

English: good
Persian: First language (mother tongue)

OTHER INTERESTS

I am interested in chess. I won second place in the adolescent chess competition in Iran.
I am interested in reading books, listening to the music and watching movies
I love ping pong!

REFEREES

Dr. Shervin Maleki, Associate Professor
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Fax: 0098 -21- 44656582
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