

Curriculum Vitae of

Mahdi Valipour

Surname: Valipour
Given Name: Mahdi
Tel: 573-202-4549
E-mail: Mahdi.valipour@mst.edu
Address: 2217 vienna road, Apt #4,
Rolla, Mo, 65401



EDUCATION

- 2012- Present Missouri University of Science and Technology (Missouri S&T)
PhD student - Civil Engineering
- Research: **Investigation of economical and environmentally friendly (low-carbon footprint) high performance concrete overlay for asphalt and concrete roads as well as bridge decks**
- 2007- 2010 University of Tehran (Tehran, Iran)
Master of Civil Engineering; Hydraulic-Structural Engineering GPA: (17.02/20)
- Thesis: **Study of the Chloride Diffusion and Corrosion of Reinforced Concrete after nine month in Qeshm Island, Considering Different Exposure Conditions, Water to Cement Ratio and Pozzolanic Materials**
Master of Civil Engineering; Hydraulic-Structural Engineering
- 2002-2005 IA University (Tehran, Iran)
Bachelor of Civil Engineering, GPA: (15.41/20)

EXPERIENC

- 2012-Present **Graduate Research Assistant:** Center for Infrastructure Engineering Studies, Missouri S&T
- Investigation of economical and environmentally friendly (low-carbon footprint) high performance concrete overlay for asphalt and concrete roads as well as bridge decks
 - Bonding properties
 - Binary and ternary systems of cementitious materials

- 2007-2012 **Graduate Research Assistant:** Construction Materials Institute (CMI),
University of Tehran
- Investigation of durability of environmentally friendly sustainable green concrete containing natural zeolite in marine environments.
 - Concrete corrosion
 - NDT methods
- 2010-2011 **Assistant Teaching Professor – Department of Civil Engineering**
Azad University, Salmas Branch, Salmas, Iran.
- 2012-Present **Thesis Co-advisor**
- “Evaluation of the permeability of concrete containing pozzolans on the corrosion of the embedded reinforcement using the cylindrical chamber method”, Master thesis, Imam Khomeini International University, Iran, 2014.
 - "Study of the time-dependent diffusion of chloride ion into concrete in splash zone", Master thesis, Tarbiat Modares University, Iran, 2012.
- 2012-Present **Journal Reviewer**
- Materials and Design - Elsevier
 - Materials Research Journal
- 2008- 2011 **Workshop Lecturer**
- “Concrete Durability and Corrosion” workshops:
- Qeshm Island, Iran. (2008)
 - Tehran, Iran. (2009)
 - Bandar-Abbas, Iran. (2011)
 - Kish Island, Iran. (2011)
- 2007-2012 **Project Manager**
- Head of the first academic research site in Persian Gulf region to investigate durability of concrete and corrosion, Iran.
 - Participated in a research project entitled “DuraPGulf”, a local service life model for the durability of concrete structures in Persian Gulf.
 - Research project on the effect of nano-SiO₂ in concrete.
 - Diagnostic assessment of the corrosion damage of the concrete basin Structure in Persian Gulf with the goal of recommending a repair method.
 - Optimization of production of ready mix concrete for Bonyad Beton Company, Iran.
 - The optimization of self-compacting concrete mixture for the pavement of the Mehrabad International Airport, Iran.

- Diagnostic assessment of concrete structure of 20-story building, Iran.

AWARDS AND HONORS

2007	Awarded Full-Scholarship for the master degree at University of Tehran.
2009	Best student paper award winner 3rd place in the “2 nd international conference on seismic retrofitting” with focus on concrete technology, Tabriz, Iran
2010	ICI award winner 2nd place in the best M.Sc. thesis in 8 th Congress of Concrete Day, Tehran, Iran
2014	Secretary - Iranian Student Association at Missouri University of Science and Technology

PUBLICATIONS (OUTCOMES OF RESEARCH)

Journal Papers

- **Mahdi Valipour**, Farhad Pargar, Mohammad Shekarchi, and Sara Khani, "Comparing a natural pozzolan, zeolite, to metakaolin and silica fume in terms of their effect on the durability characteristics of concrete: A laboratory study", *Construction and Building Materials*, 41, 2013: 879-888.
- **Mahdi Valipour**, Mohammad Shekarchi, and Pouria Ghods, "Comparative studies of experimental and numerical techniques in measurement of corrosion rate and time-to-corrosion-initiation of rebar in concrete in marine environments", *Cement and Concrete Composites*, Volume 48, 2014: 98–107
- **Mahdi Valipour**, Farhad Pargar, Mohammad Shekarchi, Sara Khani, and Masoud Moradian, "In situ study of chloride ingress in concretes containing natural zeolite, metakaolin and silica fume exposed to various exposure conditions in a harsh marine environment", *Construction and Building Materials*, 46, 2013: 63-70.
- **Mahdi Valipour**, Mina Yekkalar, Mohammad Shekarchi, and Somayeh Panahi, "Environmental assessment of green concrete containing natural zeolite on the global warming index in marine environments", *Journal of Cleaner Production*, Volume 65, 2014: 418-423.
- Masoud Moradian, Mohammad Shekarchi, Farhad Pargar, Aboozar Bonakdar, and **Mahdi Valipour**, "Deterioration of concrete caused by complex attack in sewage treatment plant environment", *Journal of Performance of Constructed Facilities*, Vol. 26 (1), 2010: 124-134.
- **Mahdi Valipour**, Mohammad Shekarchi, Mahdi Arezoumandi, "Chloride Ingress Relationship between Laboratory and field exposures on Green Concrete Containing Natural Zeolite", *Cement and Concrete Composites*, 2014. (Under Review)
- **Mahdi Valipour**, Mohammad Shekarchi, Mahdi Arezoumandi, "Durability of Eco-friendly Sustainable Green Concrete in Laboratory and field exposures in

harsh marine environments", Journal of Cleaner Production, 2014. (Under Review)

- **Mahdi Valipour**, Mohammad Shekarchi, Mahdi Arezoumandi, "A Comparative Study on Time-dependent Chloride Diffusion in Different Supplementary Cementitious Materials Blended Concretes in Laboratory and Field Exposures", Materials and Structures, 2014. (Under Review)
- Mohammad Shekarchi, **Mahdi Valipour**, Farhad Pargar, "Effect of silica fume, metakaolin, zeolite and polypropylene fiber on chloride diffusion in concrete", Journal of Civil Engineering of Ferdowsi University, Iran, 2012. (In Farsi)
- **Mahdi Valipour**, Farhad Pargar, Mohammad Shekarchi, "Study of corrosion in reinforced concretes with different water to cement ratios at splash zone", Journal of Civil and Environmental Engineering, University of Tabriz, Iran, Vol 43, No. 1 serial 66. 2012. (In Farsi)
- **Mahdi Valipour**, Farhad Pargar, Mohammad Shekarchi, "Comparing the performance of metakaoline with silica fume on properties of high performance concrete", Journal of Civil Engineering of Ferdowsi University, Iran, 2011. (In Farsi)
- **Mahdi Valipour**, Farhad Pargar, Mohammad Shekarchi, "Comparative study of durability parameters of concretes containing natural zeolite and silica fume: Laboratory study", Journal of Civil and Environmental Engineering University of Tabriz, Iran, 2010. (In Farsi)
- **Mahdi Valipour**, Farhad Pargar, Mohammad Shekarchi, "The effect of exposure condition on the chloride penetration of concrete in Qeshm Island", Journal of Civil Engineering of Ferdowsi University, Iran, 2011. (In Farsi)

Conference Papers

- Study on chloride diffusion in the field and laboratory in the concrete specimens containing silica fume; **M. Valipour**, S. Shahini, M. Shekarchi, F. Pargar; Proceeding of the 2nd International Conference on Microstructure-related Durability of Cementitious Composites, (Microdurability), Amsterdam, Netherlands, 2012.
- Comparing chloride diffusion in nine months concrete specimens containing zeolite and silica fume pozzolans; F. Pargar, M. Shekarchi, **M. Valipour**; Concrete under Severe Conditions: Environment and Loading - Proceedings of the 6th International Conference on Concrete under Severe Conditions, CONSEC'10, v 2, p 1013-1020, 2010.
- Study on Gas Permeability of HPC containing Binary and Ternary Pozzolanic Materials and Polypropylene Fibers; Mohammad Shekarchi, Farnam Ghassemzadeh, Mehdi Khanzadeh, Siavash sajedi, **Mahdi Valipour**; Proceeding of the 2nd International Conference on Sustainable Construction Materials and Technologies, p 1749-1757, Ancona, Italy, 2010.
- Galvanostatic pulse corrosion measurements on onsite reinforced concrete specimens in Persian Gulf; **M. Valipour**, F. Pargar, M. Shekarchi, S. Khani;

- Proceeding of 12th International Conference on Durability of Building Materials and components (12DBMC), Porto, Portugal, 2011, pp 1771-1778.
- Study of variation in surface chloride of concrete containing different pozzolans when exposed to a tidal climate in Persian Gulf Region; **M. Valipour**, F. Pargar, M. Shekarchi, S. Khani; Proceeding of 12th International Conference on Durability of Building Materials and components (12DBMC), Porto, Portugal, 2011, pp 1763-1770.
 - Comparative study of nano-SiO₂ and silica fume on gas permeability of high performance concrete (HPC); **M. Valipour**, A. Mirdamadi, M. Shekarchi; Proceeding of 12th International Conference on Durability of Building Materials and components (12DBMC), Porto, Portugal, 2011, pp 1749-1754.
 - Comparison of chloride diffusion in nine months concrete specimens containing metakaoline and silica fume pozzolans; **M. Valipour**, F. Pargar, M. Shekarchi; Proceeding of 12th International Conference on Durability of Building Materials and components (12DBMC), Porto, Portugal, 2011, pp 1755-1762.
 - Evaluation of mechanical parameters in repair concrete with Impact-Echo test method; S. Rastgoo Moghadam, M.H. Eftekhari, M. Shekarchi, S. Javidmehr, A. Dousti, **M. Valipour**; Proceeding of 4th International Conference on Concrete Repair, Technical university of Dresden, Germany, 2012, pp 387-390.
 - Comparison of chloride diffusion in three months concrete specimens containing silica fume and metakaolin in the Persian Gulf; **M. Valipour**, F. Pargar, M. Shekarchi; Proceedings of the 1st International Conference on Concrete Technology, Tabriz, Iran, 2009. (In Farsi).
 - Preliminary study on the mechanical characteristics and electrical resistivity of concrete incorporating nano-SiO₂, **M. Valipour**, A. Mirdamadi, M. Shekarchi, M. Tadayon; Proceedings of the 1st International Conference on Concrete Technology, Tabriz, Iran, 2009. (In Farsi).
 - Primary assessment of changing in half cell potential and corrosion rate of reinforced concrete specimens in tidal and splash zones in Qeshm Island region; M. Shekarchi, **M. Valipour**, F. Pargar; Proceedings of the 1st national conference on concrete technology, Tehran, Iran, 2009. (In Farsi).
 - Chloride penetration resistance of concrete with the same compressive strength containing silica fume, metakaoline and zeolite; **M. Valipour**, F. Pargar, M. Shekarchi; Proceedings of the 1st national conference on concrete technology, Tehran, Iran, 2009. (In Farsi).
 - Investigation of the gas permeability in high performance concrete containing of metakaolin and silica fume: laboratory study; **M. Valipour**, F. Pargar, F. Ghassemzade Somarin; Proceedings of the 2nd national conference on concrete technology, Tehran, Iran, 2010. (In Farsi).
 - Investigation of the corrosion of reinforcement concrete containing of metakaolin in the Persian Gulf region; M. Shekarchi, **M. Valipour**, F. Pargar; Proceedings of the 2nd national conference on concrete technology, Tehran, Iran, 2010. (In Farsi).
 - Study of feasibility of using zeolite for improving durability of concrete in the Persian Gulf region and to optimize production and consumption of cement; M.

Shekarchi, **M. Valipour**, F. Pargar; Proceedings of the 2nd national conference on concrete technology, Tehran, Iran, 2010. (In Farsi).

- Study the effect of the use of natural pozzolan zeolite parameters on water absorption and electrical resistivity of concrete; **M. Valipour**, F. Pargar, F. Ghassemzade Somarin; Proceedings of the 2nd national conference on concrete technology, Tehran, Iran, 2010. (In Farsi).
- Investigation of the corrosion of reinforcement concrete containing of silica fume in the tidal zone in Persian Gulf region; M. Shekarchi, **M. Valipour**; Proceedings of the 3rd national conference on concrete technology, Tehran, Iran; 2011. (In Farsi).

CONFERENCE ATTENDACE

- First Transportation Infrastructure Conference, Missouri University of Science and Technology, Rolla, USA, September 27, 2012.
- Student Leadership Conference, Missouri University of Science and Technology, Rolla, USA, February 2, 2013.
- Fifth North American Conference on the Design and Use of Self-Consolidating Concrete, “SCC2013”. Chicago, IL, USA, May 12–15, 2013
- Second Transportation Infrastructure Conference, Missouri University of Science and Technology, Jefferson City, Missouri, USA, September 27, 2013.
- ACI Fall 2013 Convention, Phoenix, Arizona, USA, October 20-24, 2013.
- Third Transportation Infrastructure Conference, Missouri University of Science and Technology, Rolla, USA, September 27, 2014.
- First International Conference on Concrete Technology, Tabriz, Iran, 2009.
- First national conference on concrete technology, Tehran, Iran, 2009.
- Second national conference on concrete technology, Tehran, Iran, 2010.
- Third national conference on concrete technology, Tehran, Iran; 2011.

PRESENTATIONS

- First International Conference on Concrete Technology, Tabriz, Iran, 2009.
- First national conference on concrete technology, Tehran, Iran, 2009.
- Second national conference on concrete technology, Tehran, Iran, 2010.
- Third national conference on concrete technology, Tehran, Iran; 2011.

PROFESSIONAL MEMBERSHIPS

2012-present	American Concrete Institute (ACI)
2012-present	American Society of Civil Engineers (ASCE)
2012-present	Chi Epsilon
2010-present	Alumni Association of Faculty of Engineering, University of Tehran
2010-present	ICA, Iranian Corrosion Association
2009-present	ICI, Iranian Concrete Institute
2009-present	IYRG, Iranian Young Research Group

COMPUTER SKILLS

- Expert in civil engineering software including:
Structural Software: SAP, ETABS, SAFE
 - Programming
MATLAB
 - CAD and Architecture
AUTOCAD200X
 - General
Microsoft Office (Word, Excel, PowerPoint)
Photoshop Graphical Software
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LANGUAGE SKILLS AND PROFICIENCY

English/Turkish/Persian
