MOHAMMAD ZARRABI

PhD Student, department of Civil, Geological and Mining Engineering, Ecole Polytechnique of Montreal
No. 404, 1433 Rue Towers, Montreal, QC, H3H 2E2, Canada | +1(514) 961-6100 | mohammad.Zarrabi1990@gmail.com | mohammad.zarrabi@polymtl.ca

AREAS OF EXPERTISE

Constitutive Modeling, Geotechnical Earthquake Engineering, Deep and Shallow foundations, Physical and Numerical Modeling, Soil Modification

EDUCATION

Ecole Polytechnique of Montreal Montreal, Canada	**Ph.D. in Civil Engineering**, Major: Geotechnical Engineering Advisor: Samuel Yniesta Dissertation: Constitutive Modeling of Cyclic Softening and its Application to Seismic Slope Stability	**January 2017 - Present**
Amirkabir University of Technology Tehran, Iran	**M.Sc. in Civil Engineering** Major: Geotechnical Engineering Supervisor: Abolfazl Eslami Thesis: Study of Construction Effects on Performance of Deep Foundations using Frustum Confining Vessel (FCV).	**2012-2014**
Islamic Azad University, Najafabad Branch Isfahan, Iran	**B.Sc. in Civil Engineering** Major: Civil Engineering	**2008-2012**

PUBLICATIONS AND PRESENTATIONS

Journal Papers:

Zarrabi, M., Eslami, A., 2016. “Behavior of Piles under Different Installation Effects by Physical Modeling”. *ASCE's International Journal of Geomechanics*, 16(5), p. 04016015. doi:10.1061/(ASCE)GM.1943-5622. 0000643.

Zarrabi, M., Eslami, A., Karimi, A., and Khazaee, J. "Study of Construction Effects on Performance of Deep Foundations by Frustum Confining Vessel (FCV)." *Iranian Journal of Science and Technology: Transaction of Civil Engineering.* (Under Review)

Karimi, A., Eslami, A., **Zarrabi, M.**, and Khazaee, J. "Study of Pile Behavior by Improvement of Confining Soils Using Frustum Confining Vessel (FCV-AUT)." *Scientia Iranica Transaction A-Civil Engineering.* (In Press)

Conference Papers:

Karimi, A., Eslami, A., and **Zarrabi, M.** "Study of Construction Effects on Performance of Deep Foundations in Improved Soils using Frustum Confining Vessel." *10th International Congress on Civil Engineering*, Tabriz, May. 2015. (In Persian)

Zarrabi, M., Eslami, A., Karimi, A., and Khazaee, J. "Evaluating construction effects on performance of deep foundations using frustum confining vessel (FCV)." *1st National Conference on Soil Mechanics and foundation Engineering*, Tehran, December. 2014. (In Persian)

Karimi, A., Eslami, A., **Zarrabi, M.**, and Khazaee, J. "Investigating of piles performance in modified soils using frustum confining vessel (FCV)." *1st National Conference on Soil Mechanics and foundation Engineering*, Tehran, December. 2014. (In Persian)

Khazaee, J., Eslami, A., Karimi, A., and **Zarrabi, M.** "Study the bearing capacity of helical piles using frustum confining vessel (FCV)." *1st National Conference on Soil Mechanics and foundation Engineering*, Tehran, December. 2014. (In Persian)

RESEARCH EXPERIENCES

Graduate Student Researcher, Ecole Polytechnique of Montreal, Montreal, QC Canada — **Jan. 2017 to Present**

PI: Professor Samuel Yniesta

- Developing a constitutive model for clays with the aim of exact capturing of the cyclic softening behavior.

Graduate Student Researcher, Amirkabir University of Technology, Tehran, Iran — **Sep. 2012 to Mar. 2015**

PI: Professor Abolfazl Eslami

Study of Construction Effects on Performance of Deep Foundations using Frustum Confining Vessel (FCV) — **Sep. 2012 to Sep. 2013**

- Study, design, and manufacture a wide range of small scale piles with different shape and geometries.
- Prepare more than 100 tons of sandy soils for being used in the Frustum Confining Vessel of Amirkabir University of Technology (FCV-AUT).
- Install, instrumentation, and perform axial compressive and tensile load tests on different mini scale piles in the FCV-AUT.

Study of Pile Behavior Considering Improvement of Confining Soils using Frustum Confining Vessel (FCV). **Oct. 2013 to Sep. 2014**

- Create a method for changing the relative density of soils inside the FCV-AUT.
- Install, instrumentation, and perform axial compressive and tensile load tests on different piles in sands with various densities using FCV-AUT.
- Create a novel device for the aim of pile tip and shaft jet grouting.

Study of the bearing capacity of helical piles using frustum confining vessel (FCV). **Oct. 2014 to Mar. 2015**

- Improve the base pressure of the FCV-AUT to 350 kPa for simulating soil stresses equivalent to overburden stress of more than 30 meters height of soil.
- Study, design, and manufacture helical piles with different helixes and spacing rations.
- Create a novel laboratory device for tip and shaft jet grouting.
- Perform different axial compressive and tensile load tests on various helical piles as well as tip and shaft post grouted piles.

SKILLS

Computer Skills:

Abaqus: Intermediate	Etabs: Advanced	Mathcad: Advanced
GeoStudio: Certificated	AutoCAD: Advanced	Matlab/C/C++: Intermediate

Languages:

English: Fluent	French: Intermediate (Improving)	Persian: Native