

Curriculum Vitae (Resume)



Ali Mirzaii

Date of birth: 3rd July, 1983, Married

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❖ HIGHLIGHTS OF EDUCATION

- **Ph.D.** in Geotechnical Engineering. Tarbiat Modares University, Tehran, Iran. (2008- 2012) Research Topic: Experimental investigation and constitutive modeling of the hydro-mechanical behaviour of unsaturated soils.
- **M. Sc.** in Geotechnical Engineering. Tarbiat Modares University, Tehran, Iran. (2005-2008). Research Topic: Critical-state behaviour of an unsaturated clayey-sand.
- **B. Sc.** in Civil Engineering. University of Tabriz, Tabriz, Iran. (2001-2005).

❖ WORK EXPERIENCE

- Experienced Geotechnical Engineer, 12 years, since 2008 up to now.
- Experienced Civil Engineer, 15 years, since 2005 up to now.
- Lecturer in Geotechnical Engineering, 8 years, since 2012 up to now.

❖ EMPLOYMENT HISTORY

1- Assistant Professor in Geotechnical Engineering

University of Kashan | Kashan, Iran | <https://faculty.kashanu.ac.ir/mirzaii/en>
09.2012 > up to now

Achievements:

- Head of Civil Engineering Department, Faculty of Engineering, 2017-2019.
- Teaching courses to undergraduate and postgraduates students of civil engineering in the field of geotechnical engineering.
- Research projects and activities in the field of geotechnical engineering, including the behavior of unsaturated soils, and soil-structure interaction.
- Design and construction of standard & advanced geotechnical engineering testing systems for professional and research projects.
- Development and production of routine & specific field and laboratory instrumentations in civil & geotechnical engineering for professional and research projects.

2- Accredited Geotechnical & Civil Engineer

Iranian Construction Engineers Organization | Tehran, Iran | <http://82.99.242.34/Portal/home/?280945/homepage>
04.2015 > up to now

Achievements

- Official authorized engineer for construction & supervision of civil & geotechnical engineering structures.

3- Senior Geotechnical Engineer

Pazhooesh Omran Rahvar Consulting Engineers | Tehran, Iran | <http://rahvar-co.com/>
06.2008 > 03.2010

Achievements

- Design of routine and specific geotechnical engineering foundations and structures including deep excavations, foundations, and development of geotechnical reports.
- Establishment & development of tender and contractual documents in tunneling projects including Sadr-Niyayesh road tunnel and Amirkabir tunnel projects.
- Project coordinator in Pazhoohesh Omran Rahvar (Iran) – D2 Consult (Austria) joint venture in tunneling projects.

4- Civil Engineer

Sholeh Sooz Contractor Engineers | Tehran, Iran |
06.2005 > 10.2005 & 06.2003 > 10.2003

Achievements

- Supervision & construction of Tehran metro central control building.
- Supervision & construction of Tehran metro underground station, Line 2, Station T2.

❖ TEACHING EXPERIENCE

Postgraduate Level:

- Theory of Elasticity & Plasticity (University of Kashan, 2012 up to now), Advanced Soil Mechanics (Tarbiat Modares University, 2008-2012)

Undergraduate Level:

- Soil Mechanics, Foundation Engineering, Engineering Geology, Principles of Tunnelling Engineering, Technical English Language for Civil Engineers, Soil Mech. Laboratory, Principles of Pavement Design, Technical Drawing for Civil Engineers (University of Kashan, 2012 up to now)

❖ POSTGRADUATE THESIS SUPERVISION

Ph.D. Level:

- Experimental study on the influence of fine content on dynamic response of unsaturated sandy soils. Student: Mr. Sadeghzadegan, Advisor, Imam Khomeini Int. University, Qazvin, 2013- 2017.

M.Sc. Level:

- Supervision of more than 10 students in the fields of unsaturated soil mechanics, tunneling, and soil-structure interactions.

❖ PROFESSIONAL MEMBERSHIP

- Iranian Construction Engineers Organization, 2007 up to now.

❖ LANGUAGE SKILLS

- Persian (mother language)
- English (Fluent)

❖ INTERESTED FIELDS OF RESEARCH & STUDY

- Experimental study and research on:
 - Geotechnical engineering specifically on the behavior of unsaturated soils.
 - Soil-structure interactions.
 - Advances in geotechnical instrumentation and monitoring techniques.

❖ REVIEW IN ACADEMIC JOURNALS

- ASTM Geotechnical Testing Journal, reviewer, 2020 up to now.
- Amirkabir Journal of Civil Engineering, reviewer, 2017 up to now.
- The Modares Journal of Civil Engineering, reviewer, 2013 up to now.
- Ferdowsi Mashad University Journal of Civil Engineering, reviewer, 2014 up to now.
- University of Tabriz, Journal of Civil Engineering, reviewer, 2014 up to now.

❖ ACADEMIC PUBLICATIONS

A) Books

- Yasrobi. S.S., **Mirzaei, A.** (2008) "Unsaturated soil mechanics". (Book written in Persian) Simaye Danesh Pub. Iran.

B) Peer-reviewed International Journal Articles

- Pirjalili, A., Garakani, A. A., Golshani, A. A., & **Mirzaei, A.** (2020). A suction-controlled ring device to measure the coefficient of lateral soil pressure in unsaturated soils. *Geotechnical Testing Journal*, 43(6), 1379-1396.
- **Mirzaei, A.**, Yasrobi, S.S., & Hefzi, E. (2018). Critical state behaviour of an unsaturated clayey sand along constant water content direct shear and triaxial loading conditions. *International Journal of Geotechnical Engineering*, <http://dx.doi.org/10.1080/19386362.2018.1438151>.
- **Mirzaei, A.**, Yasrobi, S.S., & Hefzi, E. (2018). Critical state behaviour of an unsaturated clayey sand along constant water content direct shear and triaxial loading conditions. *International Journal of Geotechnical Engineering*, <http://dx.doi.org/10.1080/19386362.2018.1438151>.
- Sadeghzadegan, R., Naeini, S.A., & **Mirzaei, A.** (2018). Effect of clay content on the small and mid to large strain shear modulus of an unsaturated sand. *European Journal of Environmental and Civil Engineering*, <https://doi.org/10.1080/19648189.2017.1415169>.
- Nazari, S., Hassanlurad, M., Chavoshi, E., & **Mirzaei, A.** (2018). Experimental investigation of unsaturated silt-sand soil permeability. *Advances in Civil Engineering*, <https://doi.org/10.1155/2018/4946956>.
- Nazari, S., Hassanlurad, M., Chavoshi, E., & **Mirzaei, A.** (2017). Dynamic Analysis of Stability and Liquefaction in Dams in Unsaturated Soil Mode. *Electronic Journal of Geotechnical Engineering*, 22, 4447-4458.
- **Mirzaei A.**, Negahban M. (2016). "California bearing ratio of an unsaturated deformable pavement material along drying and wetting paths", *Road Materials & Pavement Design* 16(1), 261-269.
- **Mirzaei A.**, Yasrobi S.S. (2012). "Effect of net stress on hydraulic conductivity of unsaturated soils", *Transport in Porous Media* 95(3), 497-505.
- **Mirzaei, A.**, Yasrobi S.S., (2012). "Influence of initial dry density on soil-water characteristics of two compacted soils" *Géotechnique letters* 2(Oct.-Dec.) 193-198.

C) Peer-reviewed National Journal Articles

- Sadeghzadegan, R., Naeini, S.A., & **Mirzaei, A.** (2017). "The effect of clay content on the liquefaction resistance of an unsaturated sand". *Modares Journal of Civil Engineering*, 17 (5), 123-134.
- Negahban M., **Mirzaei A.** (2015). "Experimental investigation on the influence of hydraulic hysteresis on the California Bearing Ratio of an unsaturated deformable clayey sand", *Modares Journal of Civil Engineering*, 16 (1), 157-166, 2015.
- **Mirzaei A.**, Yasrobi S.S., & Khalili N. (2014). "Application of axis translation technique for measuring initial matrix suction of compacted soils on wetting portion of SWCC". *Sharif Journal* 29-2(4) 137-144.
- Adelian. G.A., Yasrobi. S.S., **Mirzaei. A.** (2013) "Evaluation of the effects of hydraulic and mechanical parameters on water coefficient of permeability of a clayey sand with a novel permeameter apparatus for unsaturated soils", *Sharif Journal* 28-2(4), 15-24.
- Maleki M., Bayat M., **Mirzaei A.** (2012). "Effects of Matric Suction on Mechanical Behavior of Clayey Silty Sand at Low Effective Confining Stress". *Modares Journal of Civil Engineering* 12(3), 77-89.
- **Mirzaei. A.**, Yasrobi. S.S. (2010) "The effect of matrix suction, degree of saturation, and relative compaction on the shear strength and mechanical behaviour of an unsaturated clayey-sand", *Sharif Journal* 26-2(2), 55-67.
- **Mirzaei. A.**, Yasrobi. S.S. (2008) "The effect of relative compaction and effective confining stresses on the mechanical and critical-state behaviour of clayey-sands" *Sharif Civil Engineering Journal of Science and Technology*, No. 38, pages 38 - 48.

D) International Conference Articles

- **Mirzaei, A.**, & Raofi, M. (2019). Experimental investigation of soil-structure interactions in bridge abutments. 5th International Conference on Bridges, Tehran, Iran.
- Feizi, M., & **Mirzaei, A.** (2019). Vibration Isolation Using In-filled Trench Barriers. 8th International Conference on Siesmology & Earthquake Engineering. Tehran, Iran.

- Sadeghzadegan, R., Naeini, S.A., & **Mirzaii, A.** (2018). Determination of Small Shear Modulus of Clayey Sand Using Bender Element Test. World Academy of Science, Engineering and Technology. Dubai, UAE.
- Mokhtari. A., & **Mirzaii. A.** (2017). Study on the wave velocity of natural seismic isolators in damping of earthquakes with Plaxis. 2nd International Conference on Researches in Civil Engineering. Tehran. Iran.
- **Mirzaii. A.**, & Basiri. M.R. (2016). Hypo-plastic simulations of urban underground projects-Case study: Sadr-Niayesh tunnel. Proceedings 5th International Conference on Geotechnical Engineering and Soil Mechanics, Tehran, Iran.
- Pirjalili. A., Golshani. A., & **Mirzaii. A.** (2016). Experimental study on coefficient of lateral earth pressure in unsaturated soils. Proceedings 3rd European Conference on Unsaturated Soils, Paris, France.
- Negahban M., **Mirzaii A.** (2015). Hysteretic response of the CBR of an unsaturated deformable subgrade along drying and wetting paths". Proceedings 10th International Congress on Civil Engineering, Tabriz, Iran.
- **Mirzaii A.**, Yasrobi S.S., & Khalili. N (2012). "On water permeability of unsaturated compressible soils". Proceedings 9th International Congress on Civil Engineering, Isfahan, Iran.
- **Mirzaii A.**, Yasrobi S.S., & Khalili N. (2012) "Experimental investigation of hydraulic conductivity in unsaturated compressible soils". Proceedings 2nd European Conference on Unsaturated Soils, Napoli, Italy.
- Adelian. G.A., **Mirzaii A.**, & Yasrobi. S.S. (2011). "Infiltration of water thorough a clayey sand in drying and wetting portions of SWCC. Proceedings 5th Asian-Pacific Conference on Unsaturated Soils. Pattaya.Thailand.
- Adelian. G.A., Yasrobi. S.S., **Mirzaii. A.** (2010) "Experimental Study on water Permeability of Unsaturated soils by a new permeameter", Proceedings 4th International Conference on Geotechnical Engineering and Soil Mechanics, Tehran, Iran.
- Mohammadi. M., Yasrobi. S.S., **Mirzaii. A.** (2010) "Evaluation of the mechanical characteristics of unsaturated multiphase crude oil polluted clayey sand" Proceedings 4th International Conference on Geotechnical Engineering and Soil Mechanics, Tehran, Iran.
- Hefzi. E., Yasrobi. S.S., **Mirzaii. A.** (2010) "A New Unsaturated Direct Shear Apparatus for Measuring Shear Strength of Unsaturated Soils- Part 1: Apparatus Features and Test Procedures", Proceedings 5th International conference on unsaturated soils, Barcelona, Spain.
- **Mirzaii. A.**, Yasrobi. S.S., Hefzi. E. (2010) "A New Unsaturated Direct Shear Apparatus for Measuring Shear Strength of Unsaturated Soils- Part 2: Results and comparison between plane strain and triaxial loading conditions", Proceedings 5th International conference on unsaturated soils, Barcelona, Spain.
- Mohammadi. M., Yasrobi. S.S., **Mirzaii. A.** (2010) "Effects of crude oil pollution on the shear strength behaviour of an unsaturated porous soil medium", Proceedings 5th International conference on unsaturated soils, Barcelona, Spain.
- **Mirzaii. A.**, Yasrobi. A., (2009) "Soil-water retention behaviour of an unsaturated kaolin-sand mixture", Proceedings 8th International congress on civil engineering, Shiraz, Iran.
- **Mirzaii. A.**, Yasrobi. S.S., Gatmiri. B. (2008) "Mechanical behaviour of an unsaturated clayey sand." Proceedings 1st European Conference on Unsaturated Soils, Durham, United Kingdom.

E) National Conference Articles

- Mokhtari. A., & **Mirzaii. A.** (2017). Study on geometric parameters of natural seismic isolators in damping of earthquakes using Plaxis. 4th National Conference on Applied Research in Civil Engineering, Architecture, and Urban Management. Tehran, Iran.
- Negahban M., **Mirzaii A.** (2014). "Experimental investigation of the combined effect of void ratio and matrix suction on the California bearing ratio of an unsaturated sand-kaolin mixture" Proceedings 1st National Conference on Soil Mechanics and Foundation Engineering, Tehram Iran.
- **Mirzaii. A.**, Yasrobi. S.S. (2008) "A study of the mechanical behaviour of a clayey-sand with unsaturated triaxial apparatus." Proceedings 4th National congress of civil engineering, Tehran, Iran.

❖ HIGHLIGHTS OF DEVELOPED TESTING SYSTEMS IN CIVIL & GEOTECHNICAL ENGINEERING

- Development of a **Universal Dynamic Data Acquisition and PID Controller**, Client: Shahid Beheshti University, Tehran, Iran, March- June 2019.
- Development of a **10 tone dynamic hydraulic actuator and a rigid loading frame**, Client: Technical University of Shahroud, Iran, March- June 2018.
- Development of a **bi-axial pneumatic cyclic simple shear test device**, Client: Technical University of Shahroud, Iran, March- November 2017.
- Development of a **hydraulic large scale cyclic triaxial device** (sample size: 200 mm dia. & 400 mm height), Client: Technical University of Shahroud, Iran, February 2017- September 2017.
- Development of **Bender element test device**, Clients: Iran University of Science & Technology, Tehran, 2015; Imam Khomeini Int. University, Qazvin, 2016; Azad Islamic University, Zanjan, 2016. Shahroud University of Technology, Shahroud, 2017.

- Development of **Automatic pressure & volume change controllers**, (capacities of 200, 500, and 2000 cc). Clients: Iran University of Science & Technology, Tehran, 2016; Azad Islamic University, Zanjan, 2016; Shahroud University of Technology, Shahroud, 2017.
- Development of an automatic **saturated triaxial apparatus**, Imam Khomeini Int. University, Qazvin, 2016.
- Development of a **pneumatic direct shear device**, Zharfa Ista Pey, Tehran, 2016.
- Development of **Electro-osmosis injection device**, Client: Imam Khomeini Int. University, Qazvin, 2013.
- Development of **Temperature controlled doubled-wall suction controlled triaxial cell**, Client: Imam Khomeini Int. University, Qazvin, 2013.
- Development of **automatic unsaturated triaxial device**, Clients: Tarbiat Modares University, Tehran, 2008; Bu Ali Sina University, Hamedan, 2010; University of Shahid Beheshti, Tehran, 2012; Imam Khomeini Int. University, Qazvin, 2014.
- Development of **Universal Data Acquisition Systems**, Clients: Bu Ali Sina University, Hamedan, 2011; Shahid Beheshti University, 2012 & 2016; Tarbiat Modares University, 2013; Imam Khomeini Int. University, Qazvin, 2013, 2015, 2017; Zharfa Ista Pey, Tehran, 2016; Omran Pey Shahvar, Shahroud, 2016.
- Development of a **ring device** for Poisson's ratio and modulus of elasticity measurements in rocks, Client: Ministry of Road & Transportation, Tehran, 2012.
- Development of a **flexible wall permeameter device** for unsaturated soils, Client: Tarbiat Modares University, Tehran, 2009.
- Development of a **SWCC measuring device for unsaturated soils**, Client: Azad Islamic University, Shiraz, 2008.
- Development of a **suction controlled direct shear device** for unsaturated soils, Client: Tarbiat Modares University, Tehran, 2008.

❖ POTENTIAL REFEREES

1- Dr. Seyyed Shahaboddin Yasrobi

Tarbiat Modares University & Pazhoohesh Omran Rahvar Consulting Engineers| Tehran, Iran| Email: shahab.yasrobi@gmail.com
06.2005 > up to now

Collaborations:

- M.Sc. & Ph.D. thesis supervisor in Tarbiat Modares University & project manger in Pazhoohesh Omran Rahvar Constulng Engineers.

2- Dr. Alireza Ardakani

Imam Khomeini International University| Gazvin, Iran| Email: a.r.ardakani@gmail.com
06.2005 > up to now

Collaborations:

- M.Sc. & Ph.D. courses classmate in Tarbiat Modares University & project client in Imam Khomeini International University.

3- Dr. Mehdi Mirzababaei

CQ University| Melbourne, Australia| Email: m.mirzababaie@yahoo.com; m.mirzababaei@cqu.edu.au
06.2005 > up to now

Collaborations:

- Project colleague in Tarbiat Modares University.

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