

C u r r i c u l u m V i t a e

Family Name: AFSHANIMEHRABAD Given Name(s): ALIREZA

Gender: Male

Date of Birth: January 28, 1984

Nationality: Iran

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Educational Background

Month/Date/Year

(Beginning and completion dates of bachelor's degree)	(Name of university, college or school and department)
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09/01/2003—08/30/2007	Tabriz University , Engineering departments, Faculty of Civil Engineering (Iran).
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(Beginning and completion dates of master's degree)	(Name of university, graduate school, department and title of thesis)
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09/01/2007—15/02/2010	University of Tehran , Faculty of Engineering, School of Civil Engineering (Iran). Thesis title: Pile driving analysis and proposing simple equation for hammer selection and driving time estimation.
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(Beginning and completion dates of doctorate)	(Name of university, graduate school, department and degree and date awarded, and dissertation title)
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08/22/2011—20/09/2014	Waseda University , Graduate school of creative science and engineering, Department of civil and environmental engineering Thesis subject: Numerical analysis of the effect of earth pressure balanced shield tunneling on soil stress–deformation behavior. Date of graduation: 2014/10/23
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Employment RecordMonth/Date/Year

06/01/2008–06/30/2010	Geotechnical supervisor, PGC company, Tehran-Iran (Field work)
06/01/2008–07/30/2010	Geotechnical design engineer, PGC company, Tehran-Iran (office work).
09/01/2014–03/30/2015	Geotechnical design engineer, Geo Research Institute company, Tokyo-Japan (office work).
04/01/2015–Now	Assistant Professor, Waseda University.

Current Employer and Position

Assistant Professor, Department of Civil and Environmental Engineering, Waseda University.

Field of Specialization

- Tunneling and underground structure investigations
- Analytical and numerical modeling
- Geotechnical Laboratory and field tests
- Foundation engineering

Publications:**Journal papers:**

- **Alireza Afshani**, Hirokazu Akagi, Shinji Konishi, “Close construction effect and lining behavior during the excavation of tunnel with an elliptical cross-section”, **Soils and Foundations Journal**, **2019**. (Under review.)
- Wei Li, **Alireza Afshani**, Hirokazu Akagi, Shigeaki Oka, “Influence of Lining Permeability and Temperature on Long-term Behavior of Segmented Tunnel”, **Soils and Foundations Journal**, **2019**. (Under review.)
- Shigeaki OKA, Yoshihiro ITO, Wei LI, **Alireza AFSHANI**, Shunsuke KANEKO, Jin SAITO and Hirokazu AKAGI, “Long term additional load on a shield tunnel in soft clay due to clay consolidation with water leakage.”, **JSCE Journal**, **2018**. (Under press.)
- **Alireza Afshani**, Yoshihiro Itoh, Wei Li, Shigeaki Oka, Hirokazu Akagi, Shunsuke Kaneko, Jin Saito, “An approach to study long-term behavior of tunnels in cohesive soil.”, **International Journal for Numerical and Analytical Methods in Geomechanics**, **2018**. (Under review.)
- **Alireza Afshani**, Koichi Kawakami, Shinji Konishi and Hirokazu Akagi, “Study of infrared thermal application for detecting defects within tunnel lining”, **Tunneling and Underground Space Technology Journal**, Vol. **86**, pp. **186–197**, **2019**. DOI: <https://doi.org/10.1016/j.tust.2019.01.013>
- **Alireza Afshani**, Shengwei Zhu, and Hirokazu Akaki. “Jack Force Control in EPB Shield Tunnel Steering”, Proceedings of tunnel engineering, **JSCE Journal**, Vol. **26**, II-4, **2016**.

- Afshani A. and H. Akagi, “Artificial ground freezing application in shield tunneling”, **Journal of Japanese Geotechnical Society**, Vol. 3, No. 2, pp. 71-75, **2015**.
- A. Afshani, H. Dobashi, K. Komiya, H. Akagi, “Numerical analysis of the effect of EPB shield tunneling on soil stress-deformation behavior”, **JSCE Journal**, Geotechnics, Vol 2, pp. 224-238, Oct. **2014**.
- Afshani A., Fakher A., and Palassi M., 2013, “Selection of the Proper Hammer in Pile Driving and Estimation of the Total Driving Time”, **Journal of Civil Engineering and Architecture**, Issue 12, Vol. 6, No. 12, pp. 1663-1671, **2012**.

Conference papers:

- Alireza Afshani, Hirokazu Akagi, “Study the swelling and consolidation of soft clay around tunnel during application of the ground freezing method, ITA - AITES World Tunnel Congress (WTC2020), Jalan Selangor, Malaysia, **2020**. (Submitted.)
- Alireza Afshani, Hirokazu Akagi, “Estimation of load on RC lining of a tunnel in soft clay”, Geo-Congress 2020, Minneapolis (US), 2020 (Submitted.)
- Alireza Afshani, Hirokazu Akagi, Shinji Konishi, “Behavior of concrete box-shaped tunnel under large subsidence”, 3rd ACF Symposium on Assessment and Intervention of Existing Structures, Sapporo, Japan, **2019**. (Submitted.)
- Alireza Afshani, Grant Hassan, Hirokazu Akagi, “Monitoring of ground surface displacement during the excavation of an underground ramp in proximity to other existing tunnels.” 3rd International Conference on Information Technology in Geo-Engineering (3rd ICITG), **2019** (Submitted.)
- Alireza Afshani, Hirokazu Akagi, Shinji Konishi, “Influence of close tunneling on deformation of new and existing underground structures.”, 17th European Conference of Soil Mechanics and Geotechnical Engineering (SMGE2019), Reykjavik, Iceland, **2019**.
- Alireza Afshani, Wei Li, Hirokazu Akagi, Oka Shigeaki, “Long-term behavior of the tunnel under the loads of consolidation and tunnel temperature.”, ITA - AITES World Tunnel Congress (WTC2019), Italy, Naples, **2019**.
- K. Adachi, S. Oka, Y. Itoh, A. Afshani, H. Akagi, “Design earth pressure for shield tunneling in medium stiff clay.”, GeoKanto2018, Nov. **2018**.
- Ryunosuke Todaka, Hirokazu Akagi, Shinji Konishi, Ito Satoshi, Kenichi Anan, Alireza Afshani, Shigeta Kyohei, “Assessment of Deformation of existing open-cut subway tunnel due to proximity construction by FEM.”, GeoKanto2018, Nov. **2018**.
- Alireza Afshani, Hirokazu Akagi, “Investigate the detection rate of defects in concrete lining using infrared-thermography method”, 7th Japan-China Geotechnical Symposium, China **2018**.
- Grant Hasan, Alireza Afshani, Akagi Hirokazu, “Numerical Analysis of Tunnel lining and Ground Behaviour During Shield Tunneling —A Case Study in Japan”, 5th GeoChina International Conference, **2018**.
- Alireza Afshani, Hirokazu Akagi, and Shinji Konishi “Thermal analyses of passive infrared thermography application in the tunnel lining with defects”, ITA - AITES World Tunnel Congress (WTC), Dubai **2018**.
- Oka Shigeaki, Wei Li, Alireza Afshani, and Hirokazu Akagi, “Long-term subsidence of a shield tunnel in alluvial clay”, ITA - AITES World Tunnel Congress (WTC), Dubai **2018**.

- Shengwei Zhu, Alireza Afshani, Hirokazu Akagi, “Numerical Investigation of a Proximity Shield Tunneling”, ITA - AITES World Tunnel Congress (WTC), Dubai **2018**.
- Alireza Afshani, Hirokazu Akagi, “Numerical investigation of infrared thermography application in tunneling”, 2nd International Conference “Challenges in Geotechnical Engineering”, Kyiv, Ukraine, **2017**.
- A. Afshani and H. Akagi, “Ground Improvement for Underground Space Utilization using Freezing Method”, Sustainability, Energy, and the Geoenvironment / Geo-Institute Specialty Conference, Chicago, USA, Aug. **2016**.
- A. Afshani and H. Akagi, “Stress-path and drainage analysis of soil during earth pressure balanced shield tunneling”, International Symposium on Geotechnical Aspects of Underground Construction in Soft Ground, Seoul, Aug. **2014**.
- A. Afshani, H. Dobashi, K. Komiya, H. Akagi, “Advancement simulation of parallel tunnels and their interchange with two other subway lines using a new FEM approach, a case study”, The 2nd international conference on geotechnics for sustainable development, Hanoi, Vietnam, **2013**.
- A. Afshani, H. Dobashi, S. Konishi, K. Komiya, H. Akagi, “Shield Tunneling Advancement Simulation Using 3D FEM Considering Distance Factor and Its Validation”, 3rd International Conference on Computational Methods in Tunnelling and Subsurface Engineering, Bochum, pp. 75-84, **2013**.
- A. Afshani, H. Dobashi, S. Konishi, K. Komiya, H. Akagi, and K. Orihara, “Shield Tunneling Advancement Simulation Using 3D FEM Considering Distance Factor and Its Validation”, 18th Southeast Asian Geotechnical and Inaugural AGSSEA Conference, Singapore, pp. 431-437, **2013**.
- A. Afshani, H. Dobashi, S. Konishi, K. Komiya, H. Akagi, and K. Orihara, “Shield Tunneling Advancement Simulation Using 3D FEM Considering Distance Factor and Its Validation”, 18th Southeast Asian Geotechnical and Inaugural AGSSEA Conference, Singapore, pp. 431-437, **2013**.
- A. Afshani, H. Dobashi, S. Konishi, K. Komiya, and H. Akagi, “Approach to Numerical Simulation of Shield Tunneling and Its Evaluation by Comparison with Field Data”, International Symposium on Tunneling and Underground Space Construction for Sustainable Development, Seoul, Korea, **2013**.
- Afshani A., Fakhre A., and Palassi M., “Experimental equation for selecting a proper hammer to avoid overstress condition during pile driving” ,63rd Canadian Geotechnical Conference & 6th Canadian Permafrost Conference, Calgary, Canada, 2010.
- Afshani A., Fakhre A., and Palassi M, “Selection of the Proper Hammer in Pile Driving and Estimation of the Total Driving Time”, 7th European Conference on Numerical Methods in Geotechnical Engineering, Trondheim, Norway, pp. 667-72, **2010**.
- Afshani A., Heidarzade H., Galandarzadeh A. ‘Represented Soil Thickness Criteria in 2800 Standard’, Proceeding of 8th internaonal congress in civil engineering, Shiraz, Iran, May **2009**.

Presentations:

- Title: Thermal analyses of passive infrared thermography application in the tunnel lining with defects
Organizer: ITA - AITES World Tunnel Congress (WTC)
Place and time: **Dubai May 2018**.

- Title: Investigate the detection rate of defects in concrete lining using infrared-thermography method.
Organizer: China Civil Engineering Society (CISMGE – CCES) and The Japanese Geotechnical Society (JGS)
Place and time: **Sanya, China, March 2018.**
- Title: Numerical investigation of infrared thermography application in tunneling.
Organizer: Ukrainian Society for Soil Mechanics, Geotechnics and Foundation Engineering.
Place and time: **Kyiv, Ukraine, 2017.**
- Title: Ground Improvement for Underground Space Utilization using Freezing Method
Organizer: Geoenvironment / Geo-Institute Specialty Conference
Place and time: **Chicago, USA, Aug. 2016.**
- Title: Jack Force Control in EPB Shield Tunnel Steering
Place and time: **Tokyo, 2016.**
- Title: Stress-path and drainage analysis of soil during earth pressure balanced shield tunneling
Organizer: International Symposium on Geotechnical Aspects of Underground Construction in Soft Ground
Place: **Seoul, Aug. 2014.**
- Title: Approach to Numerical Simulation of Shield Tunneling and Its Evaluation by Comparison with Field Data.
Organizer: International Symposium on Tunneling and Underground Space Construction for Sustainable Development.
Place: **Seoul, Korea, 2013**
- Title: Shield Tunneling Advancement Simulation Using 3D FEM Considering Distance Factor and Its Validation
Organizer: 3rd International Conference on Computational Methods in Tunnelling and Subsurface Engineering
Place: **Bochum, 2013.**
- Title: Advancement simulation of parallel tunnels and their interchange with two other subway lines using a new FEM approach, a case study”
Oaganizer: The 2nd international conference on geotechnics for sustainable development
Place: **Hanoi, Vietnam, 2013.**

Teaching activity:

University of Waseda, Fall.

- Geoinformatics: Field Practice, Fall sem., 2018, **Wed. 3rd–4th** Peroids (15 sessions/15 sessions)
- Science and Engineering Laboratory 1B, Fall sem., 2018, **Fri. 2nd–5th** and **Sat. 2nd–5th** Periods (5 sessions/15 sessions)
- Seminar on Soil Mechanics B and D, Fall sem., 2018, **Mon. 2nd** Peroid and **Thu. 2nd** peiod (15 sessions/15 sessions)
- Geotechnical Engineering Laboratory [S Grade], Fall sem., 2018, **Mon. 3rd** and **4th** Peiods (3 sessions/15 sessions)
- Soil Mechanics, Fall sem., 2018, **Wed. 6th** Period (3 sessions/15 sessions)

University of Waseda, Spring.

- Geoinformatics:Field Practice, spring sem., **Wed. 3rd–4th** Peroids (15 sessions/15 sessions)
- Basic Experiments in Science and Engineering 1A V, spring sem., **Fri. 2nd–5th** Periods (4 sessions/15 sessions)

- Seminar on Soil Mechanics A and C, spring sem., **Mon. 2nd** Peroid and **Thu. 2nd** peiod (**15 sessions/15 sessions**)
- Geotechnical Engineering Laboratory [S Grade], spring sem., **Mon. 3rd** and **4th** Peiods (**3 sessions/15 sessions**)
- Geotechnical Engineerig, spring sem., **Wed. 6th** Period (**3 sessions/15 sessions**)

Other academic and professional activities:

Honors:

- Receiving WASEDA University special scholarship for Doctoral Program, Japan (The Asian Special Scholarship)
- Candidate of AY2016 Faculty Development Program at University of Washington (UW).

Holding of workshops and seminars:

- WASEDA-RPI Workshop: This was a workshop between Waseda University (Japan) and Rensselaer Polytechnic Institute (US) that was conducted in Waseda University, Kajima technical research institute, and Gaikan shield tunneling site. The workshop sponcered by department of civil and environmental engineering of Waseda University. (**23-25 May 2018**)

Membership of scientific organization:

- Japanese Geotechnical Society (JGS)
- Japanese Society of Civil Engineering (JSCE)
- American Society of Civil Engineering (ASCE)
- Tunneling Association of Canada (TAC)
- Iranian Geotechnical Society (IGS)
- Iranian Tunneling Association (ITA)

Date: **2019 March**

Signature:

Alireza Afshani

Name (in Roman block capitals)

ALIREZA AFSHANIMEHRABAD