YOLANDA ALBERTO

yalbertoh@gmail.com

Blanco Encalada 2002, Of. 432

PROFESSIONAL APPOINTMENTS

Assistant Professor, School of Engineering, Department of Civil Engineering
University of Chile **March 2019 – Current, Chile**

Researcher, National Research Center for Integrated Disaster Risk Management
CIGIDEN **March 2019 – Current, Chile**

Assistant Professor, Graduate School of Engineering
The University of Tokyo **April 2016 – December 2018**
Geotechnical earthquake engineering research and engineering education. Promotion of globalization of the School of Engineering.
Research projects:
- Geotechnical damage in lifelines after earthquakes in Japan and Chile
- Seismic resilience of water systems in urban environments
- Geotechnical risks and mitigation measures for lifelines during natural disasters
- Effect of non-plastic fines on the liquefaction resistance of soils and repeated liquefaction

Postdoctoral Fellow, National Research Center for Integrated Disaster Risk Management, CIGIDEN
Catholic University of Chile **October 2015 – March 2016**

Postdoctoral Fellow, Consortium for Engineered Trenchless Technologies
University of Alberta **September 2014 – September 2015, Canada**

Senior Design Engineer
Grupo CARSO **April 2011 – August 2011, Mexico**

- East Outlet Tunnel, Mexico City. Pumping analysis and design of shafts using finite element method. Geotechnical analysis of shafts and tunnel. Soil improvement. Modeling of groundwater flow using finite differences. Field engineering and inspection. Elaboration of technical reports.

Design engineer
Ingenieros Civiles Asociados, ICA **August 2009 – April 2011, Mexico**

Projects
- Line 12, Subway, Mexico City. Geotechnical analysis and design of concrete lining through finite element modeling. Excavation design. Foundation design and ground improvement. Revision of field and laboratory tests to develop geotechnical profiles. Elaboration of reports and technical papers. Presentation of designs for client approval.
- Physical test of a real-scale model of the actual design of tunnel concrete lining to observe the effect of long-term conditions on the primary and secondary lining.
- East outlet tunnel, Mexico City. Geotechnical analysis and finite element modeling of shafts and concrete lining. Design of lining drainage. Ground improvement and pumping analysis and design.
- Río Verde – Cd. Valles Highway. Field inspection. Slope stability analysis. Bridge foundation revision and

design. Development of constructive processes.
- Rehabilitation of the México-Pachuca Highway. Review of pavements and settlement.
- Mexico-Tuxpan Highway. Field inspection. Slope stability analysis.
- Wastewater Treatment Plant, Atotonilco Hidalgo. Revision of foundation and slope stability design for bidding. Once the company won the bid, proposal of geotechnical exploration.
- Interceptor-Tunjuelos Tunnel, Colombia. Shafts revision and lining analysis for bidding.

Research Assistant
Institute of Engineering, UNAM **January 2007 – August 2008, Mexico**

EDUCATION

Ph.D. Civil Engineering **2014**
Geotechnical Earthquake Engineering
University of Tokyo, JAPAN
Master in Civil Engineering **2009**
Geotechnical Engineering
University of California, Berkeley, USA
B.S. Civil Engineering **2007**
School of Engineering, UNAM. MEXICO
B.S. Civil Engineering - Exchange Program **2006**
Transportation
Purdue University, West Lafayette, USA, August-December 2006

AWARDS

Young Researchers for International Mobility (2018), awarded by the School of Engineering at the University of Tokyo to fund a project of post-disaster management of the water distribution system for joint research in Mexico.
Start-up for Female Researcher in Engineering (2016), awarded by the Gender Equality Office at the University of Tokyo to fund a project on post-disaster management of the water distribution system.
National Youth Award (2012), awarded by the Mexican Government for academic and professional achievement, and significance of investigations in Civil Engineering
Gabino Barreda medal (2010), awarded by the National Autonomous University of Mexico (UNAM) for the best graduate in civil engineering, class 2003 -2007.
CONACYT Fellowship (2008 and 2011) for lnternational Master degree and Doctoral degree.
Honorable Mention for Outstanding Thesis (2007), National Autonomous University of Mexico
Dean's list and semester honors (2006) at Purdue University.
North American Free Trade Agreement Scholarship (2006) at Purdue University

PUBLICATIONS

Journal Papers and Book Chapters
Alberto, Y., Kyokawa, H., Otsubo, M., Kiyota, T., and Towhata, I. (2018). Geotechnical reconnaissance of the 2017 Central Mexico Earthquake. Soil and Foundations Journal. November 2018.
Alberto, Y., Kyokawa, H., Otsubo, M., Kiyota, T., and Towhata, I. (2018). Reconnaissance of the 2017 Puebla, Mexico Earthquake. JSCE Journal of Disaster FactSheets FS2018-E-0001.
Alberto-Hernandez, Y., Kang, C., Yi, Y., Bayat. A. (2017). Clogging potential of Tunnel Boring Machine (TBM): a review. International Journal of Geotechnical Engineering, Vol 12, Issue 3, pp.316-323.
Alberto-Hernandez, Y., Kang, C, Yi, Y., Bayat, A. (2017). Mechanical properties of clayey soil relevant for clogging potential. International Journal of Geotechnical Engineering, Vol 12, Issue 18, pp. 529-536.
Alberto, Y., Towhata, I., Gunji, K., Yamada, S. (2015). Laboratory tests on cyclic undrained behavior of loose sand with cohesionless silt and its application to assessment of seismic performance of subsoil. Journal of Soil

Dynamics and Earthquake Engineering, Vol. 79, Part B, pp. 365-378.
Alberto, Y., Towhata, I. and Gunji K. (2014). Liquefaction behavior of sand with non-plastic fines and its application to ground deformation analysis, Geotecnia, 234, SMIG.
Mayoral, J., Alberto, Y., Mendoza M. and Romo, M. (2009). Seismic response of an urban bridge- support system in soft clay, Journal of Soil Dynamics and Earthquake Engineering, Volume 29, Issue 5, pp. 925-938.

Book chapters
Alberto, Y., De la Llera, J.C., (2018). Effect of the Seismic Vulnerability of Water Pipelines on the Collapsible Soils of the North of Chile. New Developments in Materials for Infrastructure Sustainability and the Contemporary Issues in Geo-environmental Engineering, SpringerLink, pp. 38-52
Alberto-Hernandez, Y. and Towhata, I. (2017). New Insight in Liquefaction After Recent Earthquakes: Chile, New Zealand and Japan. *Earthquakes-Tectonics, Hazard and Risk Mitigation*, InTech, doi:10.5772/65854
Alberto-Hernandez, Y. and Towhata, I. (2016). Effects of Non-plastic Fines on Undrained Cyclic Behavior of Loose Sand. *Geotechnical Hazards from Large Earthquakes and Heavy Rainfalls*, SpringerLink, pp. 121-131.
Towhata, I., Gunji, K., Alberto Hernández, Y. and Yamada, S. (2013). Laboratory tests on cyclic undrained behavior of loose sand with cohesionless silt and its application of assessment of seismic performance of subsoil. *Soil Liquefaction during Recent Large-Scale Earthquakes*, Ed. Orense, Towhata and Chouw, CRC Press, pp. 79-94

Conference Papers

1. Alberto, Y. (2018). Recovery process of the water distribution system after a seismic event. GeoMeast 2018. Sustainable Civil Infrastructures: Structural Integrity, November 24-28, Cairo, Egypt.
2. Alberto, Y. and Towhata, I. (2018). Liquefaction potential of sand with non-plastic fines: samples with the same compaction energy. Proceedings of the Geotechnical Earthquake Engineering and Soil Dynamics V 2018, June 10 –13, Austin, Texas.
3. Alberto, Y. (2017). Loss data collection of the water system after the 2011 and 2016 seismic events in Japan. World Bosai Forum, Sendai, 26-29 November, Sendai.
4. Alberto, Y. (2017). Restoration of the water distribution networks in Japan after recent earthquakes. 8th International Conference of the Integrated Disaster Risk Management Society. Reykjavik, Iceland, 22-25 August, 2017.
5. Alberto, Y. and De la Llera, J.C. (2016). Damage to the water system in the earthquakes of Chile 2010 and Japan 2011. 1st International Conference on Natural Hazards and Infrastructure (ICONHIC). Chania, Crete, 28-30 June, 2016.
6. Alberto, Y. and Towhata, I. (2015). Undrained response of sand containing non-plastic fines. XV Pan-American Conference on Soil Mechanics and Geotechnical Engineering. Buenos Aires, Argentina, 15-18 November.
7. Alberto, Y. and Towhata, I. (2015). Comprehensive study on the influence of non-plastic fines in the static and cyclic response of sands. XVI European Conference of Soil Mechanics and Geotechnical Engineering, Edinburg, Scotland, 13-17 September.
8. Alberto, Y. (2015). Undrained and post-liquefaction behavior of sands containing fines. 15th Asian Regional Conference on Geotechnical Engineering, 9-13 November 2015, Fukuoka, Japan.
9. Alberto, Y. and Towhata, I. (2014). Influence of non-plastic fines on the undrained behavior of sand. Proceedings of Softsoils, 21-23 October, Bandung, Indonesia.
10. Alberto, Y. and Towhata, I. (2014). Effect of non-plastic fines on undrained cyclic behavior of loose sand 6th Japan-Taiwan International Workshop on Geotechnical Natural Hazards, July 12-15, 2014, Fukuoka, Japan.
11. Alberto, Y. and Towhata, I. (2014). Fines content influence on the cyclic and monotonic response of sand and post-liquefaction deformation. 49th Japan National Conference on Geotechnical Engineering, Kyushu, Japan.
12. Alberto, Y., Gunji, K., Yamada, S. and Towhata, I. (2013). Laboratory tests on cyclic undrained behavior of loose sand with cohesionless silt and its application to assessment of seismic performance of subsoil, New Zealand-Japan Workshop on Soil Liquefaction During Recent Large Scale Earthquakes, December 2-3, 2013.
13. Alberto, Y. and Towhata, I. (2013). Effects of non-plastic fines and density on the liquefaction behavior of silty sand. 10th GeoKanto Conference, Tokyo, Japan.

14. Alberto, Y. and Towhata, I. (2013). Torsional shear test for determining the influence of fines content on the cyclic behavior of Urayasu sand. 48th Japan National Conference on Geotechnical Engineering.
15. Gunji, K., Alberto, Y. and Towhata, I. (2013). Simple prediction method of liquefaction-induced displacement (In Japanese). 48th Japan National Conference on Geotechnical Engineering.
16. Alberto, Y. and Towhata, I. (2012). Torsional shear tests on cyclic behavior of Urayasu sand, 9th GeoKanto Conference, Tokyo, Japan.
17. Morelos, J., Alberto, Y. and Tavera, E. (2011). lnstrumentation and Monitoring of an Existing Subway Line During Construction of a New Subway Line in Mexico City, 5th lnternational Conference on Structural Health Monitoring of Intelligent Infrastructure, Cancun, Mexico.
18. Tavera, E. and Alberto, Y. (2011). Geotechnical parameters and structural analysis for tunnel lining design in soft soils in Mexico City, 13th AFTES lnternational Congress, Lyon, France.
19. Alberto, Y. and Tavera, E. (2011). Design of urban tunnels in soft ground using TBM. 14th Pan-American Conference on Soil Mechanics and Geotechnical Engineering (PCSMGE), Ontario, Canada.
20. Morelos, J., Alberto, Y., and Yañez, D. (2011). Geotechnical behavior of an instrumented urban tunnel built under difficult soft soil conditions, 14th Pan-American Conference on Soil Mechanics and Geotechnical Engineering (PCSMGE), Ontario, Canada.
21. Aguilar, O., Mendoza, L., Tavera, E., Alberto, Y. and Morelos, J. (2011). Load test on a real scale model of a tunnel with secondary lining, 14th Pan-American Conference on Soil Mechanics and Geotechnical Engineering (PCSMGE), Ontario, Canada.
22. Tavera, E. and Alberto, Y. (2011). Solución geotécnica y estructural para el cruce de la línea 12 y la línea 7, Revista Ingeniería Civil del Colegio de Ingenieros Civiles de México, 506, LXI.
23. Aguilar, O., Mendoza, L., Tavera, E., Alberto, Y. and Morelos, J. (2010). Prueba de carga en un modelo a escala real de un túnel de dovelas con revestimiento secundario. XXVI Reunión Nacional de Mecánica de Suelos e Ingeniería Geotécnica, Acapulco, Guerrero, Mexico.
24. Tavera, E., Alberto, Y., Aguilar, O. and Yáñez, D. (2010). Consideraciones para el diseño de túneles en suelos blandos que se recomiendan incorporar a la normatividad mexicana. XVII Congreso Nacional de Ingeniería Estructural, Leon, Guanajuato, Mexico.
25. Mayoral, J., Alberto, Y. and Romo, M. (2009). Seismic performance evaluation of deep foundation systems in difficult subsoil conditions, XVII lnternational Conference on Soil Mechanics and Geotechnical Engineering, October 2009, Alexandria, Egypt.
26. Mayoral, J., Romo, M., Mendoza, M. and Alberto, Y. (2008). Evaluación del comportamiento sísmico de cimentaciones profundas en arcillas blanda XXIV Reunión Nacional de Mecánica de Suelos, Aguascalientes, Mexico.
27. Alberto, Y., Mayoral, J. and Romo, M. (2008). Análisis crítico de aspectos geo-sísmicos recomendados por códigos de construcción para definir espectros de diseño. XXIV Reunión Nacional de Mecánica de Suelos, Aguascalientes, Mexico.
28. Romo, M., Mayoral, J., Alberto, Y. and Osorio, L. (2007). Critical analysis of key geo-seismic aspects recommended in building codes to define design spectra, XIV European Conference on Soil Mechanics and Geotechnical Engineering (ECSMGE), Madrid, Spain.

PROFESSIONAL ASSOCIATIONS

- American Society of Civil Engineers
- Japanese Society of Civil Engineers
- Integrated Disaster Risk Management Society
- International Society of Soil Mechanics and Geotechnical Engineering
- Earthquake Engineering Research Institute
- Japanese Association of Earthquake Engineering
- Japanese Society of Geotechnical Engineering
- Reviewer for the Geotechnical and Geological Engineering Journal