

Resume and Professional Record (as of February, 2023)

Name: Kenji WATANABE

Place of Birth: Tokyo, Japan

Affiliation: Professor, Department of Civil Engineering, The University of Tokyo

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Education: B. Eng., Univ. Tokyo (1998)

M. Eng., Univ. Tokyo (2000)

Ph.D, Univ. Tokyo (2007)

Work Experience:

2000-2007: Researcher, Railway Technical Research Institute (RTRI), Japan

2007-2008: Engineer, JR West (West Japan Railway Company), Japan

2008-2012: Assistant Senior Researcher, RTRI, Japan

2011-2018: Associate Professor (G), Tokyo University of Science, Japan

2012-2015: Senior Researcher, RTRI, Japan

2014-2015: Visiting Researcher, IFSTTAR (Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux), France

2016-2018: Laboratory Head, RTRI, Japan

2018-2023; Associate Professor, University of Tokyo

2023-current; Professor, University of Tokyo

Specialty: Seismic behavior of earth structure, Scour and Erosion

Performance based design of earth structures, retaining structures

Reinforcement of existing earth structure against earthquake and heavy rainfall

Deformation and strength properties of geomaterials

Design and construction of Geosynthetic reinforced soil structure

Awards: December 1999: Young Award from Japan Chapter of International Geosynthetics Society for the paper "Seismic stability of reinforced-soil retaining walls by tilting and shaking table tests" (in Japanese) co-authored

with Koseki, J. et al.

May 2005: Young Award from Japanese Geotechnical Society for the paper “Behaviors of several types of model retaining walls subjected to irregular excitation” co-authored with Koseki, J. et al.

December 2006: Best Paper Award from Japan Chapter of International Geosynthetics Society for the paper “Extension of procedures to evaluate residual displacements of geogrid reinforced soil retaining wall with embedded sheet pile” (in Japanese) co-authored with Nakajima, S. and Koseki, J.

April 2010: The Young Scientists’ Prize, The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology

January 2011: Best Paper from Geosynthetics International for the paper “A new type of integral bridge comprising geosynthetic-reinforced soil walls” co-authored with Tatsuoka, F. et al.

June 2012: Best Paper Award from Japanese Geotechnical Society for the paper “Seismic earth pressure exerted on retaining walls under a large seismic load” co-authored with Koseki, J. and Tateyama, M.

April 2015: Best Paper Award from Japan Railway Engineers’ Association (JREA) for the paper “The development of new railway embankment which can exhibit ductile behavior against earthquake and the following Tsunami attack” co-authored with Matsuura, K., Fujii K. and Kudo, A.

June 2016: Best Paper Award from Japanese Geotechnical Society for the paper “Study on effect of embedment of sheetpile for aseismic countermeasure of retaining wall, -Simulation on case histories during the 1995 Hyogoken-Nanbu earthquake-” (in Japanese) co-authored with Nakajima, S., Koseki, J. and Tateyama, M.

June 2018: Best Paper Award from Japanese Society of Civil Engineering for the paper “Development of aseismic countermeasure for masonry wall using failure prevention net and soil reinforcement” (in Japanese) co-authored with Nakajima, S., Koda, M, Fujiwara, T., Takasaki, H. and Ikemoto, H.

June 2022: Best Paper Award from Japanese Geotechnical Society for the paper “Development of geosynthetic-reinforced soil embankment resistant to severe earthquakes and prolonged overflows due to tsunamis” co-authored with Nakajima, S, Fujii, K., Matsuura,K., Kudo, A., Nonaka, K. and Aoyagi, Y.

Professional Memberships:

- 1998-current: Japanese Geotechnical Society
- 1998-current: Japan Society of Civil Engineers
- 1999-current: International Geosynthetics Society

Professional Activities:

- 2009-2011: Editorial Board for Soils and Foundations, the Japanese Geotechnical Society
- 2014: Scientific committee for 2nd International Symposium on Railway Geotechnical Engineering (Georail2014, France)
- 2017: Scientific committee for 3rd International Symposium on Railway Geotechnical Engineering (Georail2017, France)
- 2021- : Executive Board for Soils and Foundations, the Japanese Geotechnical Society

Keynote lecture/Invited lecture

- 2011: Keynote lecturer at 1st International Symposium on Railway Geotechnical Engineering (GeoRail 2011), 'Railways and natural hazards in Japan' (Paris, France)
- 2012: Theme Lecturer at International seminar on low cost railway infrastructures, 'History of railway structures in Japan and recent construction cost reduction technique from geotechnical aspect' (Seoul, Korea)
- 2012: Theme Lecturer at 2nd International Conference on Transportation Geotechnics (IS-Hokkaido), 'Railway transition zone and application of geosynthetic-reinforced soil structures' (Sapporo, Japan)
- 2015: Theme Lecturer at IGS TC-Soil Reinforcement Workshop, 'Development of Geosynthetics Reinforced-soil Structure for the Japan Railway' (Edinburgh, UK)
- 2016: Theme Lecturer at Workshop of Geosynthetic Reinforced Soil Structure, "History of modern railway and development of Geosynthetics Reinforced-soil Structure for the Japan Railway" (Manila, Philippines)
- 2016: Keynote Lecturer at 6th Asian Regional Conference on Geosynthetics, "General overview of experimental studies on seismic stability of geosynthetic reinforced soil structures and recent research activity" (New Delhi, India)

- 2018: Theme Lecturer at UK Chapter of the International Geosynthetic Society (Use of Geosynthetics in Rail: Towards 2025), “History of Japanese railway and Development of Geosynthetics Reinforced-soil Structure” (York, UK)
- 2022: Invited Lecturer at 7th Asian Regional Conference on Geosynthetics (GeoAsia2022), “Seismic performance of geosynthetic reinforced soil bridge abutment” (Taiwan)

Qualification

2010: Professional Engineers in Japan (P.E.Jp)

Authored/edited books in English

1. Tatsuoka, F., Tateyama, M., Aoki, H. and Watanabe, K.: Bridge abutment made of cement mixed gravel backfill, Ground Improvement, Case Histories, Elsevier Geo-Engineering Book Series, Vol. 3 (Indraratna & Chu eds.), pp.829–873, 2015
2. Tatsuoka, F. and Watanabe, K.: Design, construction and performance of GRS structures for railways in Japan, Ground Improvement Case Histories- Compaction, Grouting and Geosynthetics (buddhima Indraratna et al., ed), Elsevier, pp.657-692, 2015.

Journal papers in English:

1. Watanabe, K., Munaf, Y., Koseki, J., Tateyama, M. and Kojima, K.: Behaviors of several types of model retaining walls subjected to irregular excitation, *Soils and Foundations*, Vol.43, No.5, pp.13-27, 2003. https://doi.org/10.3208/sandf.43.5_13
2. T.N. Lohani, L.Kongsukprasert, Watanabe, K., Tatsuoka, F.: Strength and Deformation Properties of Compacted Cement-mixed Gravel Evaluated by Triaxial Compression Tests, *Soils and Foundations*, Vol.44, No.5, pp.95-108, 2004. https://doi.org/10.3208/sandf.44.5_95
3. Watanabe, K., Koseki, J. and Tateyama, M.: Application of high speed digital CCD camera to observe dynamic deformation characteristics of sand, *Geotechnical Testing Journal*, ASTM, Vol.28, No.5, pp.423-435, 2005. <https://doi.org/10.1520/GTJ12646>
4. Nakajima, S., Koseki, J., Watanabe, K. and Tateyama, M. : Study on resistant mechanism of aseismic countermeasure for GRS wall and leaning type retaining wall, *Journal of GeoEngineering*, Taiwan Geotechnical Society, Vol.3, No.3, pp.121-129, 2008.
5. Nakajima, S., Koseki, J., Watanabe, K. and Tateyama, M.: A simplified procedure to evaluate earthquake-induced residual displacements of conventional type retaining walls, *Soils and Foundations*, Vol.49, No.2, pp.287-303, 2009. <https://doi.org/10.3208/sandf.49.287>
6. Tatsuoka, F., Hirakawa, D., Nojiri, M., Aizawa, H., Nishikiori, H., Soma, R., Tateyama, M. and Watanabe, K.: A new type of integral bridge comprising geosynthetic-reinforced soil walls, *Geosynthetics International*, 16, No.4, pp.301-326, 2009. <https://doi.org/10.1680/gein.2009.16.4.301>

7. Shinoda, M. Watanabe, K., Kojima, K., Tateyama, M. and Horii, K.: Seismic stability of a reinforced-soil structure constructed after the mid-Niigata prefecture earthquake, *Geosynthetics International*, 16, No.4, pp.274-285, 2009. <https://doi.org/10.1680/gein.2009.16.4.274>
8. Nakajima, S., Koseki, J., Watanabe, K. and Tateyama, M.: Simplified procedure to evaluate earthquake-induced residual displacements of geosynthetic-reinforced soil retaining walls, *Soils and Foundations*, Vol. 50, No. 5, pp.659-677, 2010. <https://doi.org/10.3208/sandf.50.659>
9. Koseki, J., Hong, K., Nakajima, S., Mulmi, S., Watanabe, K. and Tateyama, M.: Negative pore air pressure generation in backfill of retaining walls during earthquakes and its effect on seismic earth pressure, *Soils and Foundations*, Vol. 50, No. 5, pp.747-755, 2010. <https://doi.org/10.3208/sandf.50.747>
10. Watanabe, K., Koseki, J. and Tateyama, M.: Seismic earth pressure exerted on retaining walls under a large seismic load, *Soils and Foundations*, Vol. 51, No. 3, pp.379-394, 2011. <https://doi.org/10.3208/sandf.51.379>
11. Munoz, H., Tatsuoka, F., Hirakawa, D., Nishikiori, H., Soma, R., Tateyama, M. and Watanabe, K.: Dynamic stability of geosynthetic-reinforced soil integral bridge, *Geosynthetics International*, 19, No.1, pp.11-38, 2012. <https://doi.org/10.1680/gein.2012.19.1.11>
12. Tatsuoka, F., Munoz, H., Kuroda, T., Nishikiori, H., Soma, R., Kiyota, T., Tateyama, M. and Watanabe, K.: Stability of existing bridges improved by structural integration and nailing, *Soils and Foundations*, Vol.52, No.3, pp.430-448, 2012. <https://doi.org/10.1016/j.sandf.2012.05.004>
13. Taheri, A., Y. Sasaki, Y., Tatsuoka, F. and Watanabe, K.: Strength and deformation characteristics of cemented-mixed gravelly soil in multiple-step triaxial compression, *Soils and Foundations*, Vol.52, No.1, pp.126-145, 2012. <https://doi.org/10.1016/j.sandf.2012.01.015>
14. Shinoda, M., Watanabe, K., Sanagawa, T., Abe, K., Nakamura, H., Kawai, T. and Nakamura, S.: Dynamic behavior of slope models with various slope inclinations, *Soils and Foundations*, Vol. 55, No.1, pp.127-142, 2015. <https://doi.org/10.1016/j.sandf.2014.12.010>
15. Nakajima, S., Watanabe, K., Shinoda, M., Abe, K., Nakamura, S., Kawai, T. and Nakamura, H.: Consideration on evaluation of seismic slope stability based on shaking table model test, *Japanese Geotechnical Society Special Publication*, Vol. 2, No. 26, pp. 957-962, 2015. <https://doi.org/10.3208/jgssp.JPN-100>
16. Kawabe, S., Kikuchi, Y., Watanabe, K. and Tatsuoka, F.: Model tests on the stability of GRS integral bridge against tsunami load, *Japanese Geotechnical Society Special Publication*, Vol. 2, No.68, pp. 2313-2318, 2016. <https://doi.org/10.3208/jgssp.IGS-20>
17. Watanabe, K., Sawada, R. and Koseki, J.: Uplift mechanism of open-cut tunnel in liquefied ground and simplified method to evaluate the stability against uplifting, *Soils and Foundations*, Vol. 56, No. 3, pp.412-426, 2016. <https://doi.org/10.1016/j.sandf.2016.04.008>
18. Watanabe, K., Nakajima, S., Fujii, K., Matsuura, K., Kudo, A., Nonaka, T. and Aoyagi, Y.:

- Development of geosynthetic-reinforced soil embankment resistant to severe earthquakes and prolonged overflows due to tsunamis, *Soils and Foundations*, 2020, <https://doi.org/10.1016/j.sandf.2020.08.006>
19. Shinoda, M., Nakajima, S., Watanabe, K., Nakamura, S. and Yoshida, I.: Practical seismic fragility estimation of unreinforced and reinforced embankments in Japan, *Geosynthetics International*, 2020, <https://doi.org/10.1680/jgein.20.00026>
 20. Abe, K., Murotani, K and Watanabe, K.: Development of MPM-MPS coupling method and numerical analysis of scouring of embankment caused by overflow, *Journal of Japan Society of Civil Engineers, Ser. A2 (Applied Mechanics)*, Vol.76, No.2, pp.1-205-1-216 2020. https://doi.org/10.2208/jscejam.76.2_I_205
 21. Watanabe, K., Nakajima, S., Fujiwara, T. Yoshii, K. and G. Venkatappa Rao: Construction and field measurement of high-speed railway test embankment built on Indian expansive soil "Black Cotton Soil", *Soils and Foundations*, Vol. 61, No. 1, pp.218-238, 2021, <https://doi.org/10.1016/j.sandf.2020.08.008>
 22. Enomoto, T., Horikoshi, K., Ishikawa, K., Mori, H., Takahashi, A., Unno, T and Watanabe, K.: Levee damage and bridge scour by 2019 typhoon Hagibis in Kanto Region, Japan, *Soils and Foundations*, 2021, <https://doi.org/10.1016/j.sandf.2021.01.007>
 23. Watanabe, K., Zafar, A., Tomita, M. and Nishikouri, K.: Three-dimensional dynamic behaviour of embankments on liquefiable ground, *Géotechnique Letters*, Volume 12 Issue 1, March, 2022, pp. 1-5, <https://doi.org/10.1680/jgele.21.00040>
 24. Watanabe, K., Kojima, K. and Kudo, A.: Influence of cyclic load on pullout stiffness of geogrid embedded in well-graded gravel, *Geosynthetics International*, 2022, <https://doi.org/10.1680/jgein.21.00045>
 25. Matsuda, T., Kawajiri, S., Watanabe, Y. and Watanabe, K.: Investigation of river structures damaged at Chikuma river due to Typhoon No.19, October, 2019, *Journal of Japan Society of Civil Engineers*, Vol.10, pp.206-212, 2022, https://doi.org/10.2208/journalofjsce.10.1_206
 26. Shinoda, M., Nakajima, S., Watanabe, K., Nakamura, S., Yoshida, I. and Miyata, Y.: Practical seismic fragility estimation of Japanese railway embankments using three seismic intensity measures, *Soils and Foundations*, Vol. 62, No. 4, 2022, <https://doi.org/10.1016/j.sandf.2022.101160>
 27. Chibana, T., Quioco, R. and Watanabe, K.: Role of Grain Size Distribution and Pier Aspect Ratio in Scouring and Sorting around Bridge Piers, *Water*, Special Issue Advances in Experimental Hydraulics, Coast and Ocean Hydrodynamics, Vol.14, No.13, 2022, <https://doi.org/10.3390/w14132066>
 28. Shinoda, M., Yoshida, I., Watanabe, K., Nakajima, S., Nakamura, S. and Miyata, Y.: Seismic probabilistic risk estimation of Japanese railway embankments and risk-based design strength of soil and reinforcement, *Soil Dynamics and Earthquake Engineering*, Vol

International conference proceedings, Magazines

1. Watanabe, K., Maeda, T., Kobayashi, Y. and Towhata, I.: Shaking table tests on seismic earth pressure exerted on retaining wall model, *Proc. of the Second International Conference on Earthquake Geotechnical Engineering*, Vol.1, 297-302, Lisbon, 1999.
2. Koseki, J., Hayano, K., Watanabe, K. and Huang, C.C.: Damage to retaining walls caused by the 1999 Chi-Chi earthquake and model tests on seismic behavior of retaining walls”, *International Workshop on Annual Commemoration of Chi-Chi Earthquake*, Vol. 3-Geotechnical Aspect, pp. 251-262, 2000.
3. Watanabe, K., Tateyama, M., Kojima, K. and Koseki, J.: Irregular shaking table tests on seismic stability of reinforced-soil retaining walls, *Landmarks in Earth Reinforcement*, Ochiai et al. (eds.), Swets and Zeitlinger (Balkema), Vol.1, pp.489-494, 2001.
4. Koseki, J., Watanabe, K., K., Tateyama, M. and Kojima, K.: Seismic earth pressures acting on reinforced-soil and conventional type retaining walls, *Landmarks in Earth Reinforcement*, Ochiai et al. (eds.), Swets and Zeitlinger (Balkema), Vol.1, pp.393-398, 2001.
5. Watanabe, K., Tateyama, M., Yonezawa, T., Aoki, H., Tatsuoka, F. and Koseki, J.: Shaking table tests on a new type bridge abutment with geogrid-reinforced cement treated backfill, *Proc. of 7th International Conference on Geosynthetics*, Nice, Vol.1, pp.119-122, 2002.
6. Koseki, J., Watanabe, K., Tateyama, M. and Kojima, K.: Comparison of model shaking test results on reinforced-soil and gravity type retaining walls, *Proc. of 7th International Conference on Geosynthetics*, Nice, Vol.1, pp.111-114, 2002.
7. Nakarai, K., Uchimura, T., Tatsuoka, F., Shinoda, M., Watanabe, K. and Tateyama, M.: Seismic stability of geosynthetic-reinforced soil bridge abutment, *Proc. of 7th International Conference on Geosynthetics*, Nice, Vol.1, pp.249-252, 2002.
8. Kato, N., Huang, C.C., Tateyama, M., Watanabe, K., Koseki, J. and Tatsuoka, F.: Seismic stability of several types of retaining walls on sand slope, *Proc. of 7th International Conference on Geosynthetics*, Nice, Vol.1, pp.237-240, 2002.
9. Koseki, J., Tatsuoka, F., Watanabe, K., Tateyama, M., Kojima, K. and Munaf, Y.: Model tests on seismic stability of several types of soil retaining walls, *Reinforced Soil Engineering, Ling, Leshchinsky and Tatsuoka (eds.)*, Dekker, pp.317-358, 2003.
10. Watanabe, K., Tateyama, M., Jiang, G. L., Lohani, T. N. and Tatsuoka, F.: Strength characteristics of cement-mixed gravel evaluated by large triaxial compression tests, *Proc. 3rd Int. Symp. on Deformation Characteristics of Geomaterials*, pp.683-693, IS Lyon 03 (Di Benedetto et al. eds.), 2003.
11. Aoki, H., Watanabe, K., Tateyama, M. and Yonezawa, T. :Shaking Table Tests on Earthquake Resistant Bridge Abutment, *Proc. of the 12th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering*, Singapore, 2003.
12. Lohani, T. N., Kongsukprasent, L., Watanabe, K. and Tatsuoka, F.: Strength and deformation characteristics of cement-mixed gravel for engineering use, *Proc. 3rd Int. Symp. on Deformation Characteristics of Geomaterials*, pp.637-643, IS Lyon 03 (Di Benedetto et

- al. eds.), 2003.
13. Watanabe, K.: Behaviors of several types of model retaining walls subjected to large earthquake excitation, *Taiwan-Japan Joint Workshop on Geotechnical Hazards from Large Earthquakes and Heavy Rainfall*, Taipei, 2004.
 14. Koseki, J., Kato, N., Watanabe, K. and Tateyama, M.: Effects of subsoil and backfill conditions on seismic displacement of gravity type retaining walls, *Cyclic Behaviour of Soils and Liquefaction Phenomena* (Triantafyllidis, ed.), Balkema, pp.665-671, 2004.
 15. Koseki, J., Kato, N., Watanabe, K. and Tateyama, M.: Evaluation of seismic displacement of reinforced walls, *Proc. of 3rd Asian Regional Conference on Geosynthetics*, Seoul, pp.217-224, 2004.
 16. Koseki, J., Kato, N., Watanabe, K. and Tateyama, M.: Evaluation of seismic displacement of retaining walls considering subsoil and backfill conditions, *Proc. of Japan-Europe Seismic Risk Workshop*, Bristol, 2004.
 17. Watanabe, K., Tateyama, M., Yonezawa, T. and Aoki, H.: Strength characteristics and construction management of cement-mixed gravel, *Proc. of the 16th International Conference on Soil Mechanics and Geotechnical Engineering*, pp.619-622, Osaka, 2005.
 18. Momoya, Y., Watanabe, K., Sekine, E., Tateyama, M., Shinoda, M. & Tatsuoka, F.: Effects of continuous principal stress axis rotation on the deformation characteristics of sand under traffic loads, *Proc. of the 16th International Conference on Soil Mechanics and Geotechnical Engineering*, TC3 Workshop, Osaka, 2005.
 19. Aoki, H., Yonezawa, T., Tateyama, M., Shinoda, M. and Watanabe, K.: Development of aseismic abutment with geogrid-reinforced cement-treated backfills, *Proc. of the 16th International Conference on Soil Mechanics and Geotechnical Engineering*, pp.1315-1318, Osaka, 2005.
 20. Watanabe, K., Tateyama, M., Uchimura, T., Yonezawa, T. and Aoki, H.: Pullout tests of geogrid embedded in cement-mixed gravel, *Proc. of 8th International Conference on Geosynthetics*. Yokohama, Vol.4, pp.1467-1470, 2006
 21. Nakajima, S., Koseki, J., Watanabe, K. and Tateyama, M.: Evaluation of allowable displacement of retaining walls by shaking table model tests, *Proc. of International Conference on Physical Modelling in Geotechnics*, HongKong, Vol.2, pp.1101-1106, 2006.
 22. Nakajima, S., Koseki, J., Watanabe, K., Tateyama, M. and Kato, N.: Shaking table model tests on geogrid reinforced soil retaining wall with embedded sheet pile, *Proc. of 8th International Conference on Geosynthetics*, Yokohama, Vol.4, pp.1507-1510, 2006.
 23. Watanabe, K., Tateyama, M. and Shinoda, M.: Statistical property of soil parameters for performance-based design of embankment, *Proc. of the 13th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering*, Kolkata, 2007.
 24. Nakajima, S., Koseki, J., Watanabe, K. and Tateyama, M.: Shaking table model tests on retaining walls with aseismic countermeasures, *Proc. of 13th Asian Regional Conference of Soil Mechanics and Geotechnical Engineering*, Kolkata, Vol. 1, Part 2, pp.613-616, 2007.
 25. Koseki, J., Tateyama, M., Watanabe, K. and Nakajima, S.: Stability of earth structures

- against high seismic loads, *Proc. of 13th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering*, Kolkata, Vol. 2, pp. 222-241, 2007.
26. Nakajima, S., Koseki, J., Tateyama, M. and Watanabe, K.: Shaking table model tests on retaining walls reinforced with soil nailings, *Proc. of 5th Int. Sym. on Earth Reinforcement (IS Kyushu 2007)*, pp. 707-712, 2007.
 27. Tatsuoka, F., Hirakawa, D., Nojiri, M. & Aizawa, H., Tateyama, M. and Watanabe, K.: A new type integral bridge comprising of geosynthetic-reinforced soil walls, *Proc. of 5th Int. Sym. on Earth Reinforcement (IS Kyushu 2007)*, pp. 803-809, 2007.
 28. Aizawa, H., Nojiri, M., Hirakawa, D., Nishikiori, H., Tatsuoka, F., Tateyama, M. and Watanabe, K.: Validation of high seismic stability of a new type integral bridge consisting of geosynthetic--reinforced soil walls, *Proc. of 5th Int. Sym. on Earth Reinforcement (IS Kyushu 2007)*, pp.819-825, 2007.
 29. Hirakawa, D., Nojiri, M., Aizawa, H., Nishikiori, H., Tatsuoka, F., Tateyama, M. and Watanabe, K.: Effects of the tensile resistance of reinforcement in the backfill on the seismic stability of GRS integral bridge, *Proc. of 5th Int. Sym. on Earth Reinforcement (IS Kyushu 2007)*, pp.811-817, 2007
 30. Nakajima, S., Hong, K., Mulmi, S., Koseki, J., Watanabe, K. and Tateyama, M.: Model tests on seismic performance of reinforced soil retaining walls by using different geo-grids, *International Workshop on Earthquake Hazards and Mitigations*, Guwahati, India, pp.319-325, 2007.
 31. Momoya, Y., Watanabe, K., Sekine, E., Tateyama, M., Shinoda, M. and Tatsuoka, F.: Effects of continuous principal stress axis rotation on the deformation characteristics of sand under traffic loads, *Proc. of the international workshop on design and construction of pavements and rail tracks--Geotechnical aspects and processed materials*, pp.77-87, 2007
 32. Tatsuoka, F., Hirakawa, D., Nojiri, M., Aizawa, H., Tateyama, M. and Watanabe, K.: Integral Bridge with geosynthetic-reinforced backfill, the First Pan American Geosynthetics Conference & Exhibition, Cancun, Mexico, 1199-1208, 2008.
 33. Nakajima, S., Hong, K., Mulmi, S., Koseki, J., Watanabe, K. and Tateyama, M.: Study on seismic performance of geogrid reinforced soil retaining walls and deformation characteristics of backfill soil, *4th Asian Regional Conference on Geosynthetics*, Shanghai, China, pp. 211-216, 2008.
 34. Matsumaru, T., Watanabe, K., Isono, J., Tateyama, M. and Uchimura, T.: Application of cement-mixed gravel reinforced by geogrid for soft ground improvement, *Proc. of the 4th Asian Regional Conference on Geosynthetics*, Shanghai, pp.380-385, 2008.
 35. Koseki, J., Tateyama, M., Watanabe, K. and Nakajima, S.: Geosynthetic-reinforced soils in Japan and their seismic behavior, Keynote Lecture, *Proc. of International Workshop on Contributions of Geotechnical Engineering to Sustainable Civil Constructions*, Indonesian Society for Geotechnical Engineering, Bandung, pp.1-12, 2008.
 36. Watanabe, K.: Seismic earth pressure exerted on retaining wall model under large seismic load, *Proc. of the 4th International Young Geotechnical Engineers Conference*, pp.249-252, Alexandria, 2009.

37. Watanabe, K. and Tateyama, M.: Shaking table tests on seismic earth pressure under large earthquake loads, *Proc. of the 17th International Conference on Soil Mechanics and Geotechnical Engineering*, pp.530-533, Alexandria, 2009.
38. Watanabe, K., Matsumaru, T., Isono, J., Mateyama, M. and Uchimura, T. : Soft Ground Improvement Method Using Cement-Mixed Gravel and Improved Ground Piles, *Proc. of International Symposium on Deep Mixing & Admixture Stabilization*, Okinawa, 2009.
39. Koseki, J., Nakajima, S., Tateyama, M., Watanabe, K. and Shinoda, M.: Seismic performance of geosynthetic reinforced soil retaining walls and their performance-based design in Japan, *Proc. of International Conference on Performance-Based Design in Earthquake Geotechnical Engineering - from case history to practice -*, Tsukuba, pp.149-161, 2009.
40. Shinoda, M., Watanabe, K., Kojima, K. and Tateyama, M.: Outline of performance-based design for railway earth structure in Japan, *Proc. of International Conference on Performance-Based Design in Earthquake Geotechnical Engineering - from case history to practice -*, Tsukuba, pp.137-148, 2009.
41. Nakajima S., Koseki, J., Watanabe, K. and Tateyama, M.: Development of a procedure to evaluate earthquake induced residual displacements of geosynthetic reinforced soil retaining walls, *Proc. of 9th International Conference on Geosynthetics*, Brazil, pp.1727-1730, 2010.
42. Koseki, J., Hong, K., Mulmi, S., Nakajima, S., Watanabe, K. and Tateyama, M.: Effects of negative pore air pressure in backfill soil on seismic behavior of geosynthetic-reinforced soil and conventional type retaining walls, *Proc. of 9th International Conference on Geosynthetics*, Brazil, pp.1671-1674, 2010.
43. Tatsuoka, F., Nishikiori, H., Soma, R., Hirakawa, D. Kiyota, T., Tateyama, M. and Watanabe, K.: Development of a new bridge type, GRS integral bridge, *Proc. of 9th International Conference on Geosynthetics*, Brazil, pp.1659-1664, 2010.
44. Watanabe, K. Matsumaru, T. and Tateyama, M.: Soft ground improvement method for railway embankment using cement-mixed gravel and geosynthetic, *Proc. of 1st International Symposium on Railway Geotechnical Engineering (Georail 2011)*, Paris, pp.389-396, 2011.
45. Watanabe, K., Tateyama. M.: Seismic Design of Retaining Wall Considering the Dynamic Response Characteristic, *Quarterly Report of RTRI*, Vol.53, No.2, pp.87-92, https://www.jstage.jst.go.jp/article/rtriq/53/2/53_87/_pdf, 2012.
46. Abe, K., Shinoda, M., Watanabe, K., Sanagawa, T., Nakajima, S., Nakamura, S., Kawai, T., Murata, M. & Nakamura, H.: Numerical simulation of landslides after slope failure using MPM with SYS Cam-clay model in shaking table tests, *Proc. of 15th World Conference on Earthquake Engineering (15WCEE)*, Paper N.1999, Lisboa, 2012.
47. Tatsuoka, F., Tateyama, M. and Watanabe, K.: Dynamic performance of geosynthetic-reinforced soil integral bridges, *Proc. GeosyntheticsAsia2012*, 5th Asian Regional Conference on Geosynthetics, Bangkok, 2012.
48. Watanabe, K. and Koseki, J.: Seismic design of retaining wall considering the dynamic response characteristic, *Proc. of 18th ICSMGE*, Paris, pp.1651-1654, 2013.

49. Watanabe, K.: Railway transition zone and application of geosynthetic-reinforced soil structures, *Proc. of 10th World Congress on Railway Research*, WCRR, Sydney, 2013.
50. Yazaki, S., Tatsuoka, F., Tateyama, M., Koda, M., Watanabe, K. and Duttine, A.: Seismic design of GRS integral bridge, *Proc. International Symposium on Design and Practice of Geosynthetic-Reinforced Soil Structures*, Bologna (Ling et al., eds.), pp.142-156, 2013.
51. Kawabe, S., Tatsuoka, F., Kuroda, T., Yamaguchi, S., Matsumaru, T., Watanabe, K. and Koda, M. (2013): Seismic stability of geosynthetic-reinforced soil integral bridge evaluated by shaking table test, *Proc. International Symposium on Design and Practice of Geosynthetic-Reinforced Soil Structures*, Oct. 2013, Bologna (Ling et al., eds.), pp.126-133.
52. Tatsuoka, F., Tateyama, M., Koda, M., Watanabe, K., Koseki, J., Aoki, H. and Yonezawa, T.: Design, construction and performance of GRS structures for railways in Japan, *Proc. 10th International Conference on Geosynthetics*, Berlin, 2014.
53. Watanabe, K.: Le Shinkansen : réseau ferroviaire Japonais à grande vitesse et ouvrages de Génie Civil (English Title: The Shinkansen: The Japanese high speed railway through the technical history of civil engineering structure), Conférence “THINK AND BUILT”, Ecole des Ponts ParisTech, Paris, 2015
54. Watanabe, K., Matsuura, K., Fujii K. and Kudo, A.: The development of new railway embankment which can exhibit ductile behavior against earthquake and the following Tsunami attack, *Journal of Japan Railway Engineers' Association (JREA)*, No.190, pp.9-12, 2015.
55. Kawabe, S., Kikuchi, Y., Watanabe, K. and Tatsuoka, F. : Model tests on the stability of GRS integral bridge against tsunami load, *Proc.of 15th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering*, Fukuoka, 2015.
56. Watanabe, K. and Tateyama, M.: General overview of experimental studies on seismic stability of geosynthetic reinforced soil structures and recent research activity, Keynote Lecture of 6th Asian Regional Conference on Geosynthetics, pp.KN3-KN16, New Delhi, 2016.
57. Watanabe, K., Sato, T., Kudo, A., Shimada, T., Morikawa, Y. and Takahashi, H.: Proposal of Constructional Countermeasures for the Widening of Embankments with a Focus on Their High Stability, *Quarterly Report of RTRI*, Vol.57, No.3, pp183-190, https://doi.org/10.2219/rtriqr.57.3_183, 2016.
58. Lachaussée, F., D. Pham Van Bang, Vidal, V., Chevalier, C., Ndoye, O., Szymkiewicz, F., Minatchy, C., Martineau, F. and Watanabe, K.: Overflow erosion on mixed kaolin-sand embankments, *Proc. of 8th International Conference on Scour and Erosion*, pp.653-657, 2016.
59. Watanabe, K. and Koseki, J.: The effect of seismic stability of retaining wall on seismic earth pressure, *Proc. of 16th World Conference on Earthquake Engineering*, 16WCEE, Paper N.1432, Santiago, 2017.
60. Watanabe, K., Nakajima, S. Fujii K., Matsuura, K., Kudo, A. and Nonaka. T.: Development of railway embankment resistant to severe earthquakes and prolonged overflows caused by Tsunami, *Proc. of 19th ICSMGE*, Seoul, pp.2937-2940, 2017.

61. Tatsuoka, F., Furusawa, S., Kataoka, T., Watanabe, K., T.N. Lohani and Kawabe, S.: Strength and stiffness of compacted cement-mixed gravelly soil controlled by the degree of compaction and the degree of saturation, *Proc. of 19th ICSMGE*, Seoul, pp.1253-1256, 2017.
62. Miyata, Y., Watanabe, K. and Fujita, T.: Seismic design of reinforced soil walls in Japan: A case study on the 2016 Kumamoto earthquake, *Proc. of the 11th International Conference on Geosynthetics, Korea*, 2018.
63. Kuwano, J., Mohri, Y., Kikuchi, Y., Nihei, Y., Koseki, J. and Watanabe, K.: Geosynthetics for natural disaster prevention and mitigation -Japanese challenge-, *Proc. of the 11th International Conference on Geosynthetics, Korea*, 2018.
64. Tatsuoka, F., Soma, R., Nishikiori, H., Watanabe, K. and Hirakawa, D.: High seismic performance of GRS integral bridge with approach fills of geogrid-reinforced cement-mixed gravelly soil, *Proc. of the 11th International Conference on Geosynthetics, Korea*, 2018.
65. Baboz, E., Watanabe, K. and Koseki, J.: 1-g shaking table test study of the impact of repeated liquefactions, *Proc. of the Seventh International Conference on Earthquake Geotechnical Engineering*, Rome, 2019.
66. Takayanagi, T., Naito, N., Sanagawa, T., Durand E., Davi, D., Chevalier, C., Cheetam, M. and Watanabe, K.: Scour risk management at bridges - A comparison of Japanese and French scoring methodologies-, *Proc. of 12th World Congress on Railway Research (WCRR)*, Tokyo, 2019.
67. Ali Naqi and Watanabe, K.: Evolution of change in stiffness of different gap graded soil compositions subjected to internal erosion, *Proc. of the 2nd ZHITU Symposium on Advances in Civil Engineering*, UNIST, Ulsan, South Korea, 2021.
68. Tajima, N., Onodera, T., Watanabe, K. and Kyokawa, H.: Strength Properties of Volcanic Ash Soil Collected from a Large-Scale Slope Failure Site in Hokkaido, *3rd International Symposium on Risk Assessment and Sustainable Stability Design of Slopes*, Sendai, JAPAN, 2022.
69. Watanabe, K., Kyokawa, H., Onodera, T. Koseki, J. and Aoyagi, Y.: Evaluation of residual strength characteristics of reconstituted volcanic soil at Atsuma town, Hokkaido with stacked-ring shear tests, *Proceedings of the 20th International Conference on Soil Mechanics and Geotechnical Engineering*, Sydney, Australia, 2022.
70. Chowdealli, B., Watanabe, K.: Effect of cyclic loading on the response of an unsaturated railway embankment, *Proceedings of the 5th International Conference on Railway Technology*, RAILWAYS 2022, Montpellier, France, 2022.
71. Watanabe, K. and Kojima, K.: Seismic performance of geosynthetic reinforced soil bridge abutments, *Proc. of 7th Asian Regional Conference on Geosynthetics, Geoasia2022*, Taiwan, 2022.

Seminar/Webinar

2020: Development of Geosynthetics Reinforced-soil Structure for Japanese high-speed bullet train “Shinkansen”, iGrip2020 (Initiative for Geotechnical Research & Innovative Practices), Indian Institute of Technology (Gandhinagar), 2020

<https://igrip.iitgn.ac.in/wp-content/uploads/2020/07/iGripWebinar-5-Presentation-Watanabe.pdf>

2021: Key issues for developing GRS structures for Indian railway iGrip2021, (Initiative for Geotechnical Research & Innovative Practices), Indian Institute of Technology (Gandhinagar), 2021

http://www.rrr-sys.gr.jp/test/Watanabe_iGripWebinar_20210807%E2%80%972.pdf