

Gang Wang

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SHORT BIOGRAPHY

Prof. Gang Wang is an Associate Professor in the Department of Civil and Environmental Engineering, Hong Kong University of Science and Technology. He obtained his Ph.D. in Civil Engineering from the University of California at Berkeley in 2005. His areas of research interest include strong motion characterization, physics-based earthquake simulation, nonlinear numerical modeling of soil-structure interaction, soil liquefaction and landslide hazard, micromechanics of particulate media. His research is supported by competitive research grants from Hong Kong Research Grants Council (RGC) and National Natural Science Foundation of China (NSFC). He has been principle investigator leading one NSFC/RGC joint research project and five RGC General Research Funds. He is presently Vice President of Hong Kong Society of Theoretical and Applied Mechanics, member of ISSMGE TC203 Technical Committee for Geotechnical Earthquake Engineering, Past President of ASCE Hong Kong Section. He published more than 50 research papers in reputable SCI journals, and delivered more than 10 keynotes/invited lectures at major national and international conferences. He is Conference Chair of The 1st International Symposium on Soil Dynamics and Geotechnical Sustainability (2016), and Conference Co-Chair of the upcoming 6th Huixian International Forum. He currently serves as Associate Editor of *Advances in Structural Engineering*, *CMES-Computer Modeling in Engineering & Sciences*, and *Journal of Micromechanics and Molecular Physics*. He was awarded Li Foundation Heritage Prize, Outstanding Overseas Scholar Award from National Natural Science Foundation of China, 2017-18 HKUST School of Engineering Distinguished Teaching Award, and 2018 Mao Yisheng Youth Award, which is the most prestigious award from Chinese Institution of Soil Mechanics and Geotechnical Engineering.



EDUCATION

Ph.D. in Geotechnical Engineering, University of California, Berkeley, U.S.A. (Dec. 2005)

Thesis: Nonlinear Analysis of a Drilled Pier-Soil System under Static and Dynamic Axial Loading
Advisor: Professor Nicholas Sitar

M.Eng. in Hydraulic Structural Engineering, Tsinghua University, P.R. China (Jul. 2000)

Thesis: Rheological Model for Discrete Element Method and its Application in Three Gorges Project
Advisor: Professor Feng Jin

B.Eng. in Hydraulic Structural Engineering, Tsinghua University, P.R. China (Jul. 1997)

Thesis: Dynamic Finite Element Analysis of Xiaowan Arch Dam

WORK EXPERIENCE

Associate Professor, Department of Civil and Environmental Engineering, Hong Kong University of Science and Technology, July 2014 – present.

Assistant Professor, Department of Civil and Environmental Engineering, Hong Kong University of Science and Technology, Sept. 2008 – June 2014.

Consulting Engineer, Geomatrix Consultants, Oakland, California, Feb. 2007 – Sept. 2008.

Postdoctoral Scholar, Department of Civil and Environmental Engineering, University of California, Berkeley, 2006.

Research and Teaching Assistant, Department of Civil and Environmental Engineering, University of California, Berkeley, Aug. 2000 – Dec. 2005.

Visiting Scholar, Department of Mechanical Engineering, Computational Mechanics Group, Northwestern University, Evanston, Dec. 2003 – Jan. 2004.

Research Assistant, Department of Hydraulic Engineering, National Key Laboratory of High Dams and Large Structures, Tsinghua University, Sept. 1997 – Jun. 2000.

HONORS AND AWARDS

- Teaching Excellence Award, HKUST Civil Infrastructural Engineering and Management (CIEM) MSc Program, 2020.
- **2018 Mao Yisheng Youth Award in Soil Mechanics and Geotechnical Engineering**, (The highest award by Chinese Institution of Soil Mechanics and Geotechnical Engineering for researchers under age of 45; <http://www.ce.ust.hk/Web/NewsDetail.aspx?NewsId=273>), July 2019.
- **2017-2018 HKUST School of Engineering Distinguished Teaching Award**, Oct. 2018 (Top teaching award by SENG, one awardee per year).
- NSFC Joint Research Award for Overseas Chinese Scholars and Scholars in Hong Kong and Macau 2018 (a.k.a. Outstanding Overseas Chinese Scholars Award, National Natural Science Foundation of China, RMB180,000, Award No 51828902).
- K.C. Wong Education Foundation Academic Exchange Award, June 2018 (one awardee from HKUST per year).
- Publons Peer Review Award 2018 for top 1% of reviewers in Engineering.
- Outstanding Contribution in Reviewing, awarded by *Soil Dynamics and Earthquake Engineering*, Nov. 2014, Jan 2017 (twice).
- Outstanding Contribution in Reviewing, awarded by *Engineering Geology*, June 2017.
- Outstanding Contribution in Reviewing, awarded by *Particuology*, Dec 2017.
- **Conference Chair**, The 1st International Symposium on Soil Dynamics and Geotechnical Sustainability, August 7-9, 2016, Hong Kong.
- **Conference Co-Chair**, The 6th Huixian International Forum on Earthquake Engineering for Young Researchers, 2022, Hong Kong.
- **President of ASCE Hong Kong Section**, 2015-2016.
- Honorable Mention as Faculty Advisor of ASCE International Student Group from ASCE Headquarter, 2012, 2013 (twice), received Letter of Appreciation as Faculty Advisor from

ASCE President Kancheepuram N. Gunalan and ASCE Executive Director Thomas W. Smith III, 2019.

- One of 28 faculty honored as “The Teachers I Like”, nominated by the outstanding students of 2011-2012, HKUST.
- **Li Foundation Heritage Prize “Excellence in Creativity”**, 2010. Award citation: “*The US\$40,000 prize is given in recognition of your outstanding and distinguished research contributions in the field of earthquake engineering and geo-hazard mitigation in China.*”
- Travel Award, Real-Time Multi-Directional Seismic Testing Workshop, *ATLASS Lab, Lehigh University*, June 19, 2006.
- **Chinese Government Award for Outstanding Self-Financed Students Abroad**, *China Scholarship Council, Ministry of Education, P.R. China*, 2004.
- More than 10 various Fellowships and Scholarships during undergraduate and graduate study, including: Jane Lewis Fellowship, *University of California, Berkeley*, 2000, 2001; Excellent Master’s Thesis, *Tsinghua University*, 2000; Guanghua Scholarships (First Prize and Second Prize), *Tsinghua University*, 1998, 1999; Graduate Student Leadership Award, *Tsinghua University*, 1998, 1999; University Award for Excellence in Engineering Practice, *Tsinghua University*, 1998; Zhang Guangdou Scholarship (First Prize), *Tsinghua University*, 1996; Second Place in 3rd Structure Design Competition, *Tsinghua University*, 1996; University Academic Excellence Scholarship, *Tsinghua University*, 1994, 1995.

PROFESSIONAL SOCIETIES

- **Vice President, Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM)**, April 2018 – present; Secretary General (Mar. 2014 – April 2016); **incoming President of HKSTAM 2020.**
- Member, Technical Committee on the Code of Practice for Foundations, Buildings Department, The Government of Hong Kong SAR (Dec 2017-31 Dec 2020).
- **President, ASCE Hong Kong Section**, Nov. 2015 – Nov. 2016. Immediate Past President (Nov. 2016 – 2017), Vice President (Nov. 2014 – Nov. 2015), Treasurer (Nov. 2012 – Nov. 2014), Director (Nov. 2009 – Nov. 2012), ASCE Hong Kong Section.
- Invited Council Member, China Society of Theoretical and Applied Mechanics (CSTAM), Jan. 2015 – Dec. 2020.
- Secretary of Technical Committee TC210 Dams and Embankments of *International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)*, 2010 – 2018.
- Member of Technical Committee TC 203 Earthquake Geotechnical Engineering, *International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)*, 2014 – present.
- Member of Technical Committees TC206 Interactive Geotechnical Design, *International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)*, 2010 – 2014.
- **Registered Professional Civil Engineer in the State of California (since 2008).**
- Member, American Society of Civil Engineers, 2009/11 – present.
- Member, International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE), 2010 – present.

- Member, Earthquake Engineering Research Institute, 2010 – present.
- Member, Seismological Society of America, 2010 – present.
- Member, Hong Kong Geotechnical Society (HKGE), 2010 – present.
- Member of Consortium of Organization for Strong-Motion Observation Systems (COSMOS), 2007-2008.
- Member of Pacific Earthquake Engineering Research Center (PEER) Ground Motion Selection and Modification (GMSM) Group, 2007-2013.
- Life Member, University of California at Berkeley Geotechnical Engineering Society

JOURNAL EDITORSHIP

- Associate Editor, *Soil Dynamics and Earthquake Engineering* (SCI) (2020/1-)
- Associate Editor, *Advances in Structural Engineering* (SCI) (2018/8- present).
- Associate Editor, *CMES – Computer Modeling in Engineering & Sciences* (2018/5-present).
- Associate Editor, *Journal of Micromechanics and Molecular Physics* (2016/1- present).
- Guest Editor for the special issue “Recent development of earthquake engineering and soil dynamics for large-scale infrastructure” in *Soil Dynamics and Earthquake Engineering* (Elsevier), 2015.
- Editorial Board Member, *Frontiers of Structural and Civil Engineering* (co-published by Higher Education Press and Springer), 2012-2014.

UNIVERSITY TEACHING

- CIVL 5750, Geotechnical Earthquake Engineering and Soil Dynamics, Spring 2011, 2013, Fall 2014, 2015, 2016, 2017, 2018, 2019.
- CIEM 600M, Tunneling and Underground Engineering, HKUST, Fall 2010.
- CIEM 6000F, Fundamentals of Geomechanics, HKUST, Fall 2015.
- CIEM 6000M, Engineering Geology and Rock Mechanics, HKUST, Spring 2018, 2019.
- CIVL 4700, Engineering Geology, HKUST, Fall 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019.
- CIVL 4760, Introduction to Rock Mechanics, HKUST, Spring 2009, 2010, 2012, 2014, 2015, 2016, 2017, 2018, 2019.

POSTGRADUATE STUDENTS SUPERVISED

Ph.D. Students – Graduated (5)

- Chunyang DU, Ph.D. student (2013/9 – 2018/5), B. Eng. Tsinghua University.
PhD Thesis: “Regional Scale Spectral Element Simulation of 3D Topographic Amplification of Ground Motions and Associated Landslide Hazards”. (Co-supervised with Prof. Duruo Huang), Thesis defended on May 2018, now Engineer at China Resources Land Limited, Shenzhen.

- Jiangtao WEI, Ph.D. student (2012/9 – 2017/1), B. Eng. Tsinghua University. PhD Thesis: “Discrete Element Analysis of Fabric Evolution in Cyclic Liquefaction of Granular Soils”, Thesis defended on Jan 2017. Now, **Assistant Professor at Southwest Jiaotong University**
- Duruo HUANG, Ph.D. student (2014/2 – 2016/2), B. Eng. Tsinghua University. PhD Thesis: “Simulation of Spatially Correlated Earthquake Time Histories, and Energy-compatible and Spectrum-compatible Ground Motion Modification using Wavelet Packets”, Thesis defended on Feb. 2016. Now **Associate Professor at Tsinghua University**; formerly, Research Assistant Professor at HKUST.
- Wenqi DU, Ph.D. student (2009/9 – 2013/9), B. Eng. Tsinghua University. PhD Thesis: “Earthquake-induced Slope Displacement Analysis Using Spatially Correlated Vector Intensity Measures”, Thesis defended on Sept. 2013. Now **Professor at Wuhan University**; formerly, Postdoctoral Research Associate at Nanyang Technological University, Singapore.
- Yongning XIE, Ph.D. student (2009/9 – 2014/8), B. Eng. Tsinghua University. PhD Thesis: “A Numerical Procedure for Solving Hydro-mechanical Coupling Systems Using Reproducing Kernel Particle Method”, Thesis defended on August 2014. Now **Assistant Professor at Fuzhou University**.

M.Phil. Students – Graduated (4)

- Srinivas Vivek Bookkisa (Sept. 2017 – Aug. 2019), B.S. India Institute of Technology, Guwahati. M.Phil. Thesis: “Fabric Evolution in 3D Discrete Element Modelling of Soil Liquefaction.” Thesis defended on Aug. 2019.
- Shiyu Zhao (Sept. 2016 – Aug. 2018), B. Eng. China University of Geosciences, MSc. HKUST. M.Phil. Thesis: “Investigation of debris flow-structure interaction using CFD, DEM and coupled method”, Thesis defended on Aug. 2018.
- Chaoyi WANG, Ph.D. student (2012 – 2014), B. Eng. Tsinghua University. M.Phil. Thesis: “Modification and Validation of One-dimensional Equivalent Linear Method for Ground Response Analysis”, Thesis defended on Dec. 2014.
- Sen LONG, M.Phil. (2010 – 2012), B. Eng. Tsinghua University. MPhil Thesis: “Seismic Site Response Analysis Considering Ground Motion Variability and Site Property Variability”, Thesis defended on Feb. 2012.

Ph.D. Students – Ongoing (8)

- Bence Kató (2015 – present), B.S. Budapest University of Technology and Economics, Civil Engineering Faculty (BME), Hungary. Topic: Seismic response analysis considering site-city interaction.
- Kewei Feng (2016 – present), B. Eng. South Central University of China. Topic: Development of Material Point Method for large deformation analysis of landslide.
- Pedram Fardad Amini (2016 – present), B.S. Technical college of Sari, Iran, M.Sc. Babol University of Technology, Iran. Topic: Experimental test on large deformation in post liquefaction of sands.
- Zhengwei Chen (2018 – present), B.Eng. M. Eng. Tongji University; Topic: Large scale wave propagation
- Zhihao Shen (2018 – present), B. Eng. M. Eng. Tsinghua University; Topic: Fluid-particle coupling method for coastal structure

- Soheil Mohajerani (2018 – present), Ph.D., Shahrood University of Technology, Iran. Topic: periodynamic simulation of bonded particle assemblage
- Srinivas Vivek Bookkisa (2019 – present), B.S. India Institute of Technology, Guwahati. Topic: Mircomechanical modeling of granular soil
- Yuntian ZHAO (2019 – present), B.S. China University of Mining and Technology.

M.Phil. Students – Ongoing (1)

- Zhendong XIA (2019 – present), B.S. Wuhan University.

POSTDOCTORAL RESEARCH ASSOCIATES SUPERVISED

- Dr. Chengzeng YAN (Dec 2019-), Ph.D. Chinese Academy of Sciences, Research Topic: Multiscale, multiphysics modeling of geomaterials.
- Dr. Huo FAN, (Dec 2018 – present), Ph.D. University of Chinese Academy of Sciences (2016). Research topic: Innovative DDA and NMM methods for dynamics of particulate media
- Dr. Jianhong YE, Postdoctoral Research Associate (2013 – 2014), Ph.D. University of Dundee, UK (2012). Research topic: Sea-bed Liquefaction and Seismic Performance of Coastal Structures using Fully-coupled Nonlinear FEM Simulation. Now **Professor at Institute of Rock and Soil Mechanics, Chinese Academy of Sciences, Wuhan, China**
- Dr. Duruo HUANG, Postdoctoral Research Fellow (2016/2 – 2017/7), Ph.D. HKUST (2016). Now, **Associate Professor at Tsinghua University.**

STUDENT AWARDS

Supervised Ph.D. Students/Postdoc	
YAN Chengzeng	<ul style="list-style-type: none"> • Hong Kong Scholar Award (2019)
YE Jianhong	<ul style="list-style-type: none"> • Professor, Institute of Rock and Soil Mechanics, Chinese Academy of Sciences, Wuhan, China http://fssi.ac.cn/ • National 1000 Young Talents Award (2015) (This program is for the topmost young scholar in China)
HUANG Duruo	<ul style="list-style-type: none"> • Associate Professor, Department of Hydraulic Engineering, Tsinghua University, China. http://www.civil.tsinghua.edu.cn/en/he/essay/539/3214.html • National 1000 Young Talents Award (2018) (This program is for the topmost young scholar in China); • Junior Fellow, Institute of Advanced Study, HKUST. • Ringo Yu Award for Best PhD Thesis in Geotechnical Studies, Geotechnical Division of The Hong Kong Institution of Engineers (HKIE) (2017). • Best Presentation Award, The 19th Annual Conference of The Hong Kong Society of Theoretical and Applied Mechanics (2015) • SENG PhD Fellowship Award, School of Engineering, HKUST. (2014, 2015) • Liu Huixian Earthquake Engineering Scholarship Award, Huixian Earthquake Engineering Foundation and US-China Earthquake Engineering Foundation (The award is for top PhD students in Earthquake Engineering in US and Asian Pacific). (2014)

DU Wenqi	<ul style="list-style-type: none"> • Professor, School of Water Resources and Hydropower Engineering, Wuhan University, China. • National 1000 Young Talents Award (2019) • ARUP Research Prize, Ove Arup & Partners Hong Kong Ltd, 2011 • PhD Fellowship Award, School of Engineering, HKUST, 2012 • Best Presentation Award, IDEERS Competition, National Center for Research on Earthquake Engineering (Taiwan), 2011
XIE Yongning	<ul style="list-style-type: none"> • Assistant Professor, Fuzhou University, China • PhD Fellowship Award, School of Engineering, HKUST, 2012
WEI Jiangtao	<ul style="list-style-type: none"> • Assistant Professor, Southwest Jiaotong University, China • National Natural Sciences Foundation of China, Research Fund for Young Investigator (2019) • HKSTAM Best Student Presentation Award (2016)
DU Chunyang	<ul style="list-style-type: none"> • HKSTAM Best Student Presentation Award (2017), • Second Prize of the Postgraduate Division and Best Presentation Award (Third Prize) in the Introducing and Demonstrating Earthquake Engineering Research in Schools (IDEERS) competition, the National Center for Research on Earthquake Engineering, Taipei, Taiwan, 18-20 September 2015.
KATO Bence	<ul style="list-style-type: none"> • Best Student Paper Award, The IACGE International Conference on Geotechnical and Earthquake Engineering, Chongqing, China, Oct. 2018. • First Prize of the Postgraduate Division, Innovation award of seismic isolation and energy dissipation, and Best Presentation Award, Introducing and Demonstrating Earthquake Engineering Research in Schools (IDEERS), September 22-23, 2017, Taipei.
Supervised M.Phil. Students	
WANG Chaoyi	<ul style="list-style-type: none"> • First Prize of the Postgraduate Division in the Introducing and Demonstrating Earthquake Engineering Research in Schools (IDEERS) competition, National Center for Research on Earthquake Engineering (NCREE), Taipei Taiwan, September 13-15, 2013.
ZHAO Shiyu	<ul style="list-style-type: none"> • HKSTAM Best Student Presentation Award (2018).
Supervised Undergraduate FYP Students	
LI Wing Tak	<ul style="list-style-type: none"> • AECOM Prize for The Best Engineering Students in Hong Kong Universities, Geotechnical Division of The Hong Kong Institution of Engineers (HKIE), March 2018. • News Report: http://www.ce.ust.hk/Web/NewsDetail.aspx?NewsId=248

PUBLICATIONS

• BOOKS AUTHORED AND EDITED

- [B1] Li S. and Wang G. “Introduction to Micromechanics and Nanomechanics”, World Scientific Publishing, ISBN 978-9812814135, 2008, 516 pp. **The Second Edition, 2018**, 660 pp. ISBN: 978-981-4436-75-5 (hardcover), ISBN: 978-981-4436-76-2 (softcover)
- [B2] Zhang L.M., Wang Y., Wang G., Li D.Q. (Editors), “Geotechnical Safety and Risk IV”, Proceedings of the 4th International Symposium on Geotechnical Safety and Risk, CRC Press/Balkema, Taylor & Francis Group, ISBN 978-1138001633, 2014, 598 pp.
- [B3] Wang G., Zhang G. and Huang D. (Editors), “Proceedings of The 1st International Symposium on Soil Dynamics and Geotechnical Sustainability”, August 8-9, 2016, Hong Kong University of Science and Technology, ISSBN 978-988-14032-4-7, 171 pp.
- [B4] Wang G. and Lee YK (Editors), Proceedings of The 19th Annual Conference of HKSTAM 2015 in Conjunction with The 11th Jiangsu – Hong Kong Forum on Mechanics and Its Application, March 28, 2015, Hong Kong University of Science and Technology, Hong Kong.
- [B5] Wang G. and Lee YK (Editors), Proceedings of The 20th Annual Conference of HKSTAM 2016 in Conjunction with The 12th Shanghai – Hong Kong Forum on Mechanics and Its Application, April 9, 2016, Hong Kong University of Science and Technology, Hong Kong.
- [B6] Paul H. F. LAM, Konstantinos SENETAKIS and Gang WANG (Editors), Proceedings of The 23rd Annual Conference of HKSTAM 2019 in Conjunction with The 15th Jiangsu – Hong Kong Forum on Mechanics and Its Application, April 9-14, 2019, Hong Kong.

• BOOK CHAPTERS

- [B7] Wei, J. and Wang, G. Chapter 38 “Evolution of Packing Structure in Cyclic Mobility and Post-liquefaction of Granular Soils”, book chapter in “Bifurcation and Degradation of Geomaterials in the New Millennium” (*Spring Series in Geomechanics and Geoengineering*), KT Chau & J Zhao (Editors), pp.267-272, Springer, ISBN 978-3-319-13506-9, 2015.
- [B8] Wang, G. and Xie, Y. “A Modified Bounding Surface Hypoplasticity Model for Sands”, book chapter in “*Constitutive Modeling of Geomaterials: Advances and New Applications (Spring Series in Geomechanics and Geoengineering)*”, Qiang Yang *et al.* (Editors), Springer, ISBN: 978-3642328138, August 2012.
- [B9] Wang, G. Chapters 4 “Ground Motion Characterization” (116 pages) in Engineering Manual EM 1110-2-6000 “Selection of Design Earthquakes and Ground Motions” for U.S. Army Corps of Engineers, 2009, 513 pp. (The manual is co-authored with Robert Youngs, Maury Power, Roseanne Perman, Paul Somerville, Yusof Ghanaat *et al.*).
- [B10] Wang, G. Chapter 6 “Design Acceleration Time Histories” (11 pages) in Engineering Manual EM 1110-2-6000 “Selection of Design Earthquakes and Ground Motions” for U.S. Army Corps of Engineers, 2009, 513 pp.

• **REFERRED JOURNAL PAPERS** (Underlined: supervised graduate students/ postdoc/ exchange students, *corresponding author)

- [J1] Wei, J., Huang D*, Wang G (2020), Fabric evolution of granular soils under multi-directional cyclic loading. *Acta Geotechnica*.
- [J2] Wang, M.X., Huang, D*, Wang, G. Li, D. (2020). SS-XGBoost: a machine learning framework for predicting Newmark sliding displacements of slopes. *Journal of Geotechnical and Geoenvironmental Engineering*.
- [J3] Wang, M.X., Huang, D*, Wang, G. Li, D. (2020). Vine Copula based Dependence Modeling of Multivariate Ground Motion Intensity Measures and the Impact on Probabilistic Seismic Slope Displacement Hazard Analysis. *Bulletin of the Seismological Society of America*.
- [J4] Huang, D., Wang G*, Du C, Jin F, Feng KW, Chen ZW (2020). An integrated SEM-Newmark model for physics-based regional coseismic landslide assessment. Submitted to *Soil Dynamics and Earthquake Engineering*, accepted.
- [J5] Fan H., Huang, D*, Wang, G*, Jin F. (2020) Discontinuous deformation analysis for ellipsoids using cone complementary formulation. *Computers and Geotechnics*, accepted.
- [J6] Fan Huo, Huang D*, Wang G*, Wang J. (2020) Discontinuous deformation analysis for SH-body, *Computers and Geotechnics*, 117, 103234. <https://doi.org/10.1016/j.compgeo.2019.103234>
- [J7] Huang, D., Wang G*, Du C., Jin F. (2020). Seismic amplification of soil ground with spatially varying shear wave velocity using 2D spectral element method, *Journal of Earthquake Engineering*, DOI: 10.1080/13632469.2019.1654946, in press.
- [J8] Huang, D., Wang, G.*, Jin, F. (2020). Effectiveness of pile reinforcement in liquefied ground, *Journal of Earthquake Engineering*, DOI: 10.1080/13632469.2018.1456494, published online 19 Apr 2018.
- [J9] Huang, D., Wang, G.*, Wang, C., Jin, F. (2020). A modified frequency-dependent equivalent linear method for seismic site response analyses and model validation using KiK-net borehole arrays. *Journal of Earthquake Engineering*, DOI: 10.1080/13632469.2018.1453418, published online 19 Apr 2018.
- [J10] Du, W., Yu X., Wang, G. (2019). Prediction equations for the effective number of cycles of ground motions for shallow crustal earthquakes, *Soil Dynamics and Earthquake Engineering*, 125: 105759. <https://doi.org/10.1016/j.soildyn.2019.105759>
- [J11] Du, W., Ning C., Wang, G. (2019). The effect of amplitude scaling limits on conditional spectrum-based ground motion selection. *Earthquake Engineering & Structural Dynamics*, 48: 1030-1044 <https://doi.org/10.1002/eqe.3173>
- [J12] Huang, D, Wang, G.*, Jin, F (2019). Performance of on-site earthquake early warning system using strong-motion records from recent earthquakes, *Natural Hazards Review*, ASCE, 20(1):04018030. DOI: 10.1061/(ASCE)NH.1527-6996.0000318
- [J13] Wang, G., Du, C.Y., Huang, D.*, Jin, F., Koo, R.C.H. and Kwan, J.S.H. (2018). Parametric models for 3D topographic amplification of ground motions considering subsurface soils, *Soil Dynamics and Earthquake Engineering*, Vol. 115, 41-54. <https://doi.org/10.1016/j.soildyn.2018.07.018>
- [J14] Lu, X.Z.*, Tian, Y., Wang G., Huang, D. (2018). A numerical coupling scheme for nonlinear time-history analysis of buildings on a regional scale considering site-city

- interaction effects. *Earthquake Engineering & Structural Dynamics*, 47(3), 2579-2732. <https://doi.org/10.1002/eqe.3108>
- [J15] Du, W., Wang G., Huang D. (2018). Influence of slope property variabilities on seismic sliding displacement analysis, *Engineering Geology*, 242, 121-129. DOI: <https://doi.org/10.1016/j.enggeo.2018.06.003>
- [J16] Wei J., Huang, D.*, Wang, G. (2018). Microscale descriptors for particle-void distribution and jamming transition in pre- and post-liquefaction of granular soils, *Journal of Engineering Mechanics*, 144(8): 04018067. DOI: 10.1061/(ASCE)EM.1943-7889.0001482
- [J17] Du, W., Wang, G.* and Huang, D. (2018). Evaluation of seismic slope displacement based on fully coupled sliding mass analysis and NGA-West2 database. *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 144(8): 06018006. DOI: 10.1061/(ASCE)GT.1943-5606.0001923
- [J18] Du, W., Huang, D. and Wang, G.* (2018). Quantification of model uncertainty and variability in Newmark displacement analysis, *Soil Dynamics and Earthquake Engineering*, 109, 286-298. DOI: 10.1016/j.soildyn.2018.02.037
- [J19] Du, W.* and Wang, G. (2018). Ground motion selection for seismic slope displacement analysis using a generalized intensity measure distribution method. *Earthquake Engineering & Structural Dynamics*, Vol. 47(5), 1352-1359. DOI: 10.1002/eqe.2998.
- [J20] Mohajerani, S., Wang, G.*, Huang D.R.*, Jalali S.M.E., Torabi, S.R., Jin, F. (2019). An efficient computational model for simulating stress-dependent flow in three-dimensional discrete fracture networks, *KSCE Journal of Civil Engineering*, 23(3):1384-1394. DOI: 10.1007/s12205-019-0470-y
- [J21] Mohajerani, S., Huang, D*, Wang, G.*, Jalali S.M.E., Torabi, S. R. (2018). An efficient algorithm for generation of conforming mesh for three-dimensional discrete fracture networks, *Engineering Computations*, Vol. 35(8): 2860-2882. DOI: 10.1108/EC-03-2018-0127
- [J22] Du, W.* and Wang, G. (2017). Empirical correlation between the effective number of cycles and other ground motion intensity measures, *Soil Dynamics and Earthquake Engineering* 102, 65-74, DOI:10.1016/j.soildyn.2017.08.014
- [J23] Mohajerani, S., Baghbanan, A., Wang, G.* and Forouhaandeh, S.F. (2017). An efficient algorithm for simulating grout propagation in 2D discrete fracture networks, *International Journal of Rock Mechanics and Mining Sciences* 98, 67-77.
- [J24] Wang, Z.F., Wang, Q., Zukerman, M., Guo J., Wang, Y. *, Wang, G., Yang, J., Moran, B. (2017). Multi-objective path optimization for critical infrastructure links with consideration to seismic resilience, *Computer-aided Civil and Infrastructure Engineering* 32, 836-855. DOI: 10.1111/mice.12287 (Impact Factor 6.208, rank 1/132 in Engineering, Civil).
- [J25] Huang, D. and Wang, G. * (2017). Energy-compatible and spectrum-compatible (ECSC) ground motion simulation using wavelet packets, *Earthquake Engineering & Structural Dynamics* 46, 1855-1873. DOI 10.1002/eqe.2887
- [J26] Wei, J. and Wang, G. * (2017). Discrete-element method analysis of initial fabric effects on pre- and post-liquefaction behavior of sands. *Géotechnique Letters*, 7(2), 161-166, DOI 10.1680/jgele.16.00147.

- [J27] Du, W. and Wang, G. (2017). Prediction equations for ground motion significant durations using the NGA-West2 database, *Bulletin of the Seismological Society of America*, Vol. 107, No. 1, 319-333. DOI 10.1785/0120150352
- [J28] Wang, G.* and Wei, J. (2016). Microstructure evolution of granular soils in cyclic mobility and post-liquefaction process. *Granular Matter*, 18:51. DOI 10.1007/s10035-016-0621-5.
- [J29] Du, W.* and Wang, G. (2016). A one-step Newmark displacement model for probabilistic seismic slope displacement hazard analysis. *Engineering Geology*, 205, 12-23. DOI:10.1016/j.enggeo.2016.02.011
- [J30] Ye, J.H. and Wang, G. (2016). Numerical simulation of the seismic liquefaction mechanism in an offshore loosely deposited seabed. *Bulletin of Engineering Geology and the Environment*, 75:1183-1197. DOI: 10.1007/s10064-015-0803-0.
- [J31] Ye, J.H., Huang, D.* and Wang, G. (2016). Nonlinear simulation of offshore breakwater on sloping liquefied seabed, *Bulletin of Engineering Geology and the Environment*, 75, 1215–1225. DOI 10.1007/s10064-016-0906-2.
- [J32] Ling, X., Du, X., Chen, Y., Liu, H., Gu, Q.* and Wang, G. (2015). Forward to: recent development of earthquake engineering and soil dynamics for large-scale infrastructure. *Soil Dynamics and Earthquake Engineering*, 76, 1. DOI:10.1016/j.soildyn.2015.05.008
- [J33] Ye, J.H. and Wang, G.* (2015). Seismic dynamics of offshore breakwater on liquefiable seabed foundation. *Soil Dynamics and Earthquake Engineering*, 76, 86-99. DOI:10.1016/j.soildyn.2015.02.003
- [J34] Wang, G.*, Youngs, R., Power, M., and Li, Z. (2015). Design Ground Motion Library (DGML): an interactive tool for selecting ground motions. *Earthquake Spectra*, 31(2), 617-635, 2015. DOI: 10.1193/090612EQS283M
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- [J52] Li, S., Wang, G., Sauer, R. (2007). Eshelby tensors in a finite spherical domain – Part II: Applications to Homogenization. *Journal of Applied Mechanics*, ASME, 74, 784-797.
- [J53] Wang, G., Li, S., Nguyen, H.N. and Sitar, N. (2007). Effective elastic stiffness for periodic masonry structures via eigenstrain homogenization. *Journal of Materials in Civil Engineering*, ASCE, 19(3), 269-277.
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- [J55] Wang, G., Li, S., Sauer, R. (2005). Circular inclusion in a finite elastic domain. II. Neumann-Eshelby problem. *Acta Mechanica*, 179, 91-110.

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- [J57] Wang, G., Li, S. (2004). A penny-shaped cohesive crack model for material damage. *Theoretical and Applied Fracture Mechanics*, 42, 303-316.
- [J58] Li, S., Wang, G., Morgan, E. (2004). Effective elastic moduli of two dimensional solids with distributed cohesive microcracks. *European Journal of Mechanics A - Solids*, 23: 925-933.
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Other publications: Non-SCI journal papers

- [J61] Wei, J. and Wang, G.* (2016). Evolution of fabric anisotropy in cyclic liquefaction of sands. *Journal of Micromechanics and Molecular Physics*, Vol. 1, Nos. 3 & 4, 1640005. DOI 10.1142/S2424913016400051.
- [J62] Huang, D., Wang, G.*, Sheng, Z. (2014). Synthetic ground motions using wavelet packets and spatial correlation analysis, *South China Journal of Seismology*, Vol. 34, No. 3, p. 82-90 (in Chinese).
- [J63] Du, W., Wang, G.* (2011). Statistical analysis of earthquake-induced displacements of earth structures. *Rock and Soil Mechanics*, Vol. 32 (supp. 1), pp. 520-525. (Chinese core journal, EI indexed).
- [J64] Wang, G., Jin, F. and Xu, Y.J. (2001). A contact rheological model embedded in distinct element method, *Rock & Soil Mechanics*, 22 (3), 343-346. (Chinese core journal, EI indexed).

• INVITED KEYNOTES/ THEME LECTURES [recent 5 years]

International Conferences

- [L1] **[Invited Keynote Lecture (40 min)]** Large deformation modeling of earthquake-induced slope failure. *The 4th International Conference on Performance-based Design in Earthquake Geotechnical Engineering (PBD-IV)*, Beijing, China, July, 2021. **(Top international conference in earthquake geotechnical engineering, expected participants 1000+)**
- [L2] **[SOAP Lecture (40 min)]** Towards large-deformation analysis of coseismic landslides: a multiscale approach using material point method. State of the Art and Practice (SOAP) Lecture, *7th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics (ICRAGEE 2020)*, July 13-16, 2020, Indian Institute of Science Bangalore, India. **(Top international conference in earthquake geotechnical engineering, expected participants 200+)**
- [L3] **[Invited Theme Lecture (30 min)]** Large-scale simulation of ground motion amplification considering 3D topography and subsurface soils. *The 3rd International Conference on Performance-based Design in Earthquake Geotechnical Engineering (PBD-III)*, Vancouver, Canada, July 16-19, 2017. **(Top international conference in earthquake geotechnical engineering, participants approx. 600)**

- [L4] **[Plenary Keynote (30 min)]** Physically- and empirically-based models for topographic amplification of ground motions and associated landslide hazards, *The IACGE International Conference on Geotechnical and Earthquake Engineering* (IACGE2018), International Association of Chinese Geotechnical Engineers, October 19-22, 2018, Chongqing, China. **(Influential international conference by IACGE)**
- [L5] **[Invited Lecture (20 min)]** Evolution of Particle-Void Fabric in Cyclic Liquefaction of Granular Soils: Insights from Discrete Element Modeling, *The 15th International Conference of the International Association for Computer Methods and Advances in Geomechanics* (15th IACMAG), October 19-23, 2017, Wuhan, China. **(Top international conference in geomechanics, participants approx. 700)**
- [L6] **[Invited General Report (30 min)]** Recent Advances in Geotechnical Engineering of Dams and Embankments. *The 19th International Conference on Soil Mechanics and Geotechnical Engineering* (ICSMGE 2017), September 17-22, 2017, Seoul, Korea. **(Top international conference in geotechnical engineering)** ICSMGE is the biggest geotechnical conference organized under the auspices of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) and the most important conference of the geotechnical profession, participants Approx. 1500. <https://www.icsmge2017.org/>
- [L7] **[Invited Talk (20 min)]** Large-scale large-deformation simulation of earthquake-induced slope failure, *Southeast Symposium of Recent Development in Geotechnics*, July 7-9, 2019, Southeast University, Nanjing, China.
- [L8] **[Invited Talk (30 min)]** Physically-based Coseismic Landslide Simulation using SEM and MPM Methods, *2018 CICHE International Forum, Chinese Institute of Civil and Hydraulic Engineering (CICHE)*, Dec 7, 2018, Kaohsiung, Taiwan **(Influential international forum in east Asia)**
- [L9] **[Invited Lecture (30 min)]** Frequency-dependent Topographic Amplification of Ground Motions Parameterized by Curvatures. *The 2nd Huixian International Forum on Earthquake Engineering for Young Researchers*, August 19-21, 2016, Beijing, China. **(Influential international conference for young researchers)**
- [L10] **[Keynote Lecture (30 min)]** Topographic amplification of ground motions: a case study of Hong Kong, *The 1st International Symposium on Soil Dynamics and Geotechnical Sustainability*, 7-9 August 2016, Hong Kong. **(Influential international conference)**

National Conferences

- [L11] **[Invited Session Keynote (25 min)]** Simulation of rainfall and earthquake-induced slope failure using Material Point Method. The 13th National Conference on Numerical and Analytical Method in Geomechanics. Beijing, Sept. 21-22, 2019.
- [L12] **[Plenary Keynote (contributor) (30 min)]** A Critical Review on Fundamental Behavior and Constitutive Relationships of the Soil. *The 13th Chinese National Conference on Soil Mechanics and Geotechnical Engineering (CNCSMGE)*, 18th – 21th July 2019, Tianjin, China **(Top 1 national conference in geotechnical engineering, participants approx. 2500)** (Held every 4 years, CNCSMGE is the largest conference in Soil Mechanics and Geotechnical Engineering in China, organized by Chinese Institution of Soil Mechanics and Geotechnical Engineering. 2573 participants attended the conference. I am contributor of the Plenary Keynote, together with Prof. Ga Zhang (presenter), Prof. Zhenyu Yin, and Prof. Zhongxuan Yang, in Chinese)
- [L13] **[Invited Lecture]** Recent Advances in Micromechanical Study of Sand Liquefaction, *The 13th Chinese National Conference on Soil Mechanics and Geotechnical*

Engineering (CNCSMGE), 18th – 21th July 2019, Tianjin, China. [**Mao Yisheng Award Forum - Invited Lecture**] (Top national conference)

- [L14] [**Invited Lecture (20 min)**] Parametric Models for 3D Topographic Amplification of Ground Motions. *The 10th National Conference on Soil Dynamics*, November 2-4, 2018, Nanjing, China. [**Young Talent Forum Invited Lecture**] (Top national conference, participants approx. 800) Held once every 4 years, the Conference is the highest-level national conference in earthquake engineering, organized by Committee of Soil Dynamics of the Chinese Society for Vibration Engineering, 800+ participants)
- [L15] [**Keynote**] Evolution of Micromechanical Structure in Sands before and after Cyclic Liquefaction, *3rd National Young Scientist Forum on Geotechnical Engineering*, organized by Chinese Institution of Soil Mechanics and Geotechnical Engineering Young Member Committee, October 24, 2015, Lanzhou, China.
- [L16] [**Keynote**] A Bounding Surface Model for Sand Liquefaction. *1st National Young Scientist Forum on Soil Dynamics: Advance in Soil Liquefaction*. January 23-24, 2015, Nanjing, China.
- [L17] [**Invited Talk**] Recent Research on Discrete Element Modeling of Cyclic Soil Liquefaction, *The Second Conference on the Hydraulic Structure and Earthquake Engineering (HSEE-2018)*, Tsinghua University, Jan 20, 2018.
- [L18] [**Invited Talk**] Stochastic Simulation of Energy Compatible and Spectrum Compatible (ECSC) Ground Motions using Wavelet Packets, *The First Conference on the Hydraulic Structure and Earthquake Engineering (HSEE)*, January 16-17, 2015, Tsinghua University, Beijing, China.

• CONFERENCE PUBLICATIONS

Major international conferences

- [C1] Bokkisa, S.V., Wang G., Huang D., Jin. F. (2019). Fabric evolution in post-liquefaction and re-liquefaction behavior of granular soils using 3D discrete element modeling, *The 7th International Conference on Earthquake Geotechnical Engineering (7ICEGE)*, Roma, Italy, 17-20 June 2019.
- [C2] Chen Z.W., Huang D., Wang G., Jin F. (2019). Topographic amplification on hilly terrain under oblique incident waves. In: Tournier, Bennett & Bibeau (Eds), *Sustainable and Safe Dams Around the World, Proceedings of the International Commission on Large Dams 2019 Symposium (ICOLD 2019)*, June 9-14, 2019, Ottawa, Canada.
- [C3] Huang D., Wang G., Jin F. (2019) A physics-based integrated SEM-Newmark model for regional-scale coseismic landslide assessment, *The 7th International Conference on Earthquake Geotechnical Engineering (7ICEGE)*, Roma, Italy, 17-20 June 2019.
- [C4] Wang, G., Huang, D. and Wei, J. (2018). Discrete element simulation of soil liquefaction: fabric evolution, large deformation, and multi-directional loading. In: Brandenberg S.J. and Manzari M.T. (eds), *ASCE Geotechnical Special Publication GSP 292, Proceedings of Geotechnical Earthquake Engineering and Soil Dynamics V (GEESD V 2018)*, June 10-13, Austin, USA), ISBN 978-0-7844-8147-9, p. 123-132. [SCI-indexed]
- [C5] Kato B., Wang, G. (2018). Fully integrated 3D analysis on Site-City Interaction in an urban transport hub, In: Hu J., Zhang W, Yu X, Liu H. (eds), *ASCE Geotechnical Special Publication GSP 304*, pp. 312-325. DOI: 10.1061/9780784482049.031 (EI-indexed), presented at *The IACGE International Conference on Geotechnical and*

Earthquake Engineering (IACGE2018), October 19-22, 2018, Chongqing, China.
[Best Student Paper Award]

- [C6] Huang, D., Jin, F., Wang, G. (2018). Physics-based modeling of regional scale coseismic landslide hazard. *International Symposium on Seismic Safety of Large Dams and Reservoirs*, For decade memory of the Wenchuan earthquake, Chengdu, China, May 12-13, 2018. Plenary Keynote by Prof. Feng Jin]
- [C7] TIAN Yuan, LU Xinzheng, WANG Gang, XU Zhen (2018), Regional seismic damage simulation and case study considering site-city interaction, Proceedings, *The 11th US National Conference on Earthquake Engineering* (11NCEE), June 25-29, Los Angeles, USA.
- [C8] Huang, D. and Wang, G. (2017). Evaluation of Synthetic Ground Motions on Seismic Performance of Sliding Blocks and Tall Buildings. *The 15th International Conference of the International Association for Computer Methods and Advances in Geomechanics* (15th IACMAG), October 19-23, 2017, Wuhan, China.
- [C9] Wang, G. (2017). Recent Advances in Geotechnical Engineering of Dams and Embankments. The 19th International Conference on Soil Mechanics and Geotechnical Engineering (ICSMGE 2017), September 17-22, 2017, Seoul, Korea. [Invited Lecture]
- [C10] Wang, G., Du, C., and Huang, D. (2017). Large-scale simulation of ground motion amplification considering 3D topography and subsurface soils. *The 3rd International Conference on Performance-based Design in Earthquake Geotechnical Engineering* (PBD-III), Vancouver, Canada, July 16-19, 2017. [Theme Lecture]
- [C11] Huang, D. and Wang, G. (2017). Stochastic modeling of ground motions matching spectral acceleration, cumulative Arias intensity and duration, *The 16th World Conference on Earthquake Engineering* (16WCEE), Santiago, Chile, 9-13 Jan 2017.
- [C12] Kato, B., and Wang, G. (2017). Ground motion simulation in an urban environment considering site-city interaction: a case study of Kowloon station, Hong Kong. *The 3rd Huixian International Forum on Earthquake Engineering for Young Researchers* August 11-12, 2017, University of Illinois, Urbana-Champaign, United States.
- [C13] Du C.Y., and G. Wang, Frequency-dependent Topographic Amplification of Ground Motions Parameterized by Curvatures. *The 2nd Huixian International Forum on Earthquake Engineering for Young Researchers*, August 19-21, 2016, Beijing, China [Invited Lecture].
- [C14] Huang D. and G. Wang, Validation of Energy-compatible and Spectrum-compatible (ECSC) Synthetic Motions Using Nonlinear Structural Analyses. *The 2nd Huixian International Forum on Earthquake Engineering for Young Researchers*, August 19-21, 2016, Beijing, China [Invited Lecture].
- [C15] Wang G., C.Y. Du and D. Huang, Topographic amplification of ground motions: a case study of Hong Kong, *The 1st International Symposium on Soil Dynamics and Geotechnical Sustainability*, p. 29-33, 7-9 August 2016, Hong Kong. ISBN 978-988-14032-4-7 [Keynote]
- [C16] Huang D. and G. Wang. Energy-compatible and spectrum-compatible synthetic motions for seismic slope displacement analysis. *The 1st International Symposium on Soil Dynamics and Geotechnical Sustainability*, p. 109-112, 7-9 August 2016, Hong Kong. ISBN 978-988-14032-4-7 [Theme Lecture].

- [C17] Wei J. and G. Wang. DEM simulation of sand behaviors under multi-directional loading. *The 1st International Symposium on Soil Dynamics and Geotechnical Sustainability*, p. 128-131, 7-9 August 2016, Hong Kong. ISBN 978-988-14032-4-7
- [C18] Huang D. and G. Wang, Seismic Evaluation of Municipal Solid Waste Landfills in Hong Kong. *The 1st International Conference on Geo-Energy and Geo-Environment (GeGe2015)*, December 4-5, 2015, Hong Kong.
- [C19] Wei, J. and Wang, G. (2015), Microstructure Evolution of Granular Soils during Liquefaction Process. In: Soga, K; Kumar, K; Biscontin, G; Kuo, M (eds) GEOMECHANICS FROM MICRO TO MACRO, VOLS I AND II, CRC Press. It is Proceeding of *The 3rd International Symposium on Geomechanics from Micro to Macro (IS-Cambridge 2014)*, Sept 1-3, 2014, Cambridge University, UK. [SCI-index]
- [C20] Huang D. and G. Wang, Stochastic Simulation of Spatially Distributed Ground Motions using Wavelet Packets and Kriging Analysis, *The 10th US National Conference on Earthquake Engineering*, Anchorage, Alaska, July 2014.
- [C21] Wei J. and G. Wang, Cyclic Mobility and Post-liquefaction Behaviors of Granular Soils under Cyclic Loading: Micromechanical Perspectives. *The 10th US National Conference on Earthquake Engineering*, Anchorage, Alaska, July 2014.
- [C22] Du W. and G. Wang, A One-step Newmark Model for Probabilistic Analysis of Seismic Slope Displacements. *The 10th US National Conference on Earthquake Engineering*, Anchorage, Alaska, July 2014.
- [C23] Xie Y., G. Wang, A Stabilized Sequential Coupling Algorithm for Hydro-mechanical Systems using Reproducing Kernel Particle Method. *The 13th International Conference on Fracture*, Beijing, June 16-21, 2013 (Keynote Lecture in Computational Mechanics Session).
- [C24] Wei J and G. Wang, Evolution of Packing Structure in Cyclic Mobility and Post-liquefaction of Granular Soils, *The 10th International Workshop on Bifurcation and Degradation in Geomaterials*, May 28-30, 2014, Hong Kong.
- [C25] Du W., G. Wang, Quantifying Epistemic Uncertainty and Aleatory Variability of Newmark Displacements under Scenario Earthquakes. *The 4th International Symposium on Geotechnical Safety and Risk (ISGSR)*, Hong Kong, Dec 4-6, 2013.
- [C26] Du W., G. Wang. A Fully Probabilistic Framework for Spatially Distributed Slope Systems Considering Spatial Correlations of Vector Intensity Measures. *The 11th International Conference on Structural Safety and Reliability*, New York, U.S.A., June 16-20, 2013.
- [C27] Gu Q, G. Wang, S. Huang. An Efficient Response Sensitivity Analysis Method for a Bounding Surface Plasticity Sandy Soil model. *The 11th International Conference on Structural Safety and Reliability*, New York, U.S.A., June 16-20, 2013.
- [C28] Xie Y., G. Wang, An Iterative Coupling Algorithm for Hydro-mechanical Systems using Reproducing Kernel Particle Method. *International Conference on Computational Mechanics (CM13)*, Durham, UK, March 25-27, 2013.
- [C29] Wang G., Y. Xie. A Modified Bounding Surface Hypoplasticity Model for Sands. *The Second International Symposium on Constitutive Modelling – Advances and New Applications*. October 15-16, 2012, Beijing, China.

- [C30] Du W., G. Wang. Spatial Correlation of Cumulative Absolute Velocity and Arias Intensity Based on Regional Site Conditions, *The 15th World Conference on Earthquake Engineering*, Lisbon, Portugal, September 24-28, 2012.
- [C31] Wang G., W. Du. Estimating Earthquake-induced Slope Displacements using Vector Intensity Measures, *The 15th World Conference on Earthquake Engineering*, Lisbon, Portugal, September 24-28, 2012.
- [C32] Wang G. A Ground Motion Selection and Modification Method Preserving Characteristics and Aleatory Variability of Scenario Earthquakes. *Proceedings, The 9th US National and 10th Canadian Conference on Earthquake Engineering*, Toronto, July 25-29, 2010.
- [C33] Wang G, N. Sitar. Nonlinear Finite Element Analysis of Drilled Piers under Dynamic and Static Axial Loading. In: *Proceedings of The Eighth U.S. National Conference on Earthquake Engineering*, San Francisco, April 18-22, 2006.
- [C34] Wang G, N. Sitar. Numerical Analysis of Piles in Elasto-plastic Soils. In: *Proceedings of The 17th ASCE Engineering Mechanics Conference*, University of Delaware, Newark, Delaware, June 14-16, 2004.

Other local/regional conferences/workshops (27 omitted)

FUNDED RESEARCH PROJECTS

Competitive Government Fund as Principal Investigator

- **Principal Investigator**, Study on structuralized cementing technology and innovative stone column-seawall system for environmental friendly reclamation. *NSFC/RGC Joint Research Scheme*, grant No. N_HKUST621/18, 01/01/2019-31/12/2022 (**only 26 projects were funded, 3 in civil engineering. success rate 10%**)
- **Principal Investigator**, Physics-based large-deformation analysis of coseismic landslides: a multiscale MPM-SEM method with case studies, Funded by Hong Kong Research Grants Council (RGC) *General Research Fund* grant No. 16214519, Jan 01, 2020-Dec. 31, 2022.
- **Principal Investigator**, Linking microstructure evolution to cyclic liquefaction in granular soils: particle-scale investigation based on X-ray tomography and discrete element modeling. Funded by Hong Kong Research Grants Council (RGC) *General Research Fund* grant No. 16204618, 01/01/2019-31/12/2021, Internal matching grant IRS19EG22.
- **Principal Investigator**, Developing parametric models for strong-motion amplification considering 3D topography and subsurface soils, Funded by Hong Kong Research Grants Council (RGC) *General Research Fund* grant No. 16214118, 01/07/2018-31/06/2021, Internal matching grant IRS19EG10.
- **Principal Investigator**, Developing an Innovative Ground-motion Simulation and Modification Technique using Wavelet Packet for Nonlinear Structural and Geotechnical Analysis, funded by Hong Kong Research Grants Council (RGC) *General Research Fund* grant No. 16213615, 01/09/2015-28/2/2019. Internal matching grant IRS16EG15.
- **Principal Investigator**, Improving Soil Liquefaction Prediction and Evaluation through Innovative Ground Motion Characterization and Advanced Constitutive Modeling, funded by Hong Kong Research Grants Council (RGC) *General Research Fund* grant No. 620311, 01/01/2012-30/6/2015.

Competitive Government Fund as Co-Principal Investigation or Co-Investigator

- Co-I, Understanding Debris Flow Mechanisms and Mitigating Risks for a Sustainable Hong Kong, Funded by Hong Kong Research Grants Council (RGC) Theme-based Research, grant no. T22-603/15N. PI (Charles Ng), January 2016-December 2020.
- Co-PI, Cost Effective and Survivable Wide-area Topology of Telecommunication Cabling, Funded by Hong Kong Research Grants Council (RGC) Collaborative Research Fund (CRF) grant no. CityU8/CRF/13G, PI (Moshe Zukerman), June 1, 2014 – May 31, 2017.
- Co-PI, Strategies for enhancing walkability in Hong Kong via smart policies, Strategic Public Policy Research (SPPR) Project, Funded by Central Policy Unit, Hong Kong SAR Government, 01-Mar-2018 - 28-Feb-2021.

Internal Fund as Principal Investigator

Internal Fund as Co-Investigator

CONFERENCE COMMITTEE MEMBER AND SESSION CHAIR

- **Conference Co-chair, The 6th Huixian International Forum on Earthquake Engineering for Young Researchers**, Hong Kong, 2022 (in preparation).
- Scientific Committee Member, Cross-Strait Symposium on Dynamical Systems and Vibration (SDSV 2017) 10-17 December 2017, Hong Kong and Macau.
- International Scientific Committee, The 3rd International Conference on Performance-based Design in Earthquake Geotechnical Engineering (PBD-III) in Vancouver, BC, Canada, from July 16-19, 2017.
- Session Organizer, The 15th International Conference of The International Association for Computer Methods and Advances in Geomechanics, 19-23 October, 2017, Wuhan, China.
- Member of Academic Committee, The 3rd Huixian International Forum on Earthquake Engineering, University of Illinois at Urbana-Champaign, August 11-12, 2017.
- Session Chair of “Subduction Earthquakes”, The 16th World Conference on Earthquake Engineering, Santiago, Chile, 9-13 January 2017.
- **Conference Chair**, Chair of Organising Committee and Editor, **The 1st International Symposium on Soil Dynamics and Geotechnical Sustainability**, August 7-9, 2016, HKUST, Hong Kong.
- Secretary of Organizing Committee, Editor, *The 20th Annual Conference of HKSTAM in Conjunction with The 12th Shanghai – Hong Kong Forum on Mechanics and Its Application*, April 9, 2016, HKUST, Hong Kong.
- Member of Academic Committee and Session Chair, The 2nd Huixian International Forum on Earthquake Engineering for Young Researchers, August 19-21, 2016, Beijing, China.
- Member of Organizing Committee, The 1st International Conference on Geo-Energy and Geo-Environment (GeGe2015), December 4-5, 2015, HKUST, Hong Kong.
- Secretary of Organizing Committee, Editor, *The 19th Annual Conference of HKSTAM in Conjunction with The 11th Jiangsu – Hong Kong Forum on Mechanics and Its Application*, March 28, 2015, HKUST, Hong Kong.

- Vice Chair of Technical Committee, *The 1st National Young Scientist Forum on Soil Dynamics -- Advance in Soil Liquefaction*, January 23-24, 2015, Nanjing, China.
- Section Chair, *The 18th HKSTAM Annual Conference* in conjunction with the *10th Shanghai-HK Forum on Mechanics and Its Application*, March 15, 2014, City University of Hong Kong.
- Secretary of Organizing Committee, Editor, and Session Chair, *The 4th International Symposium on Geotechnical Risk and Safety (ISGSR 2013)*, Hong Kong, Dec. 4-6, 2013.
- Member of International Scientific Committee and Session Chair, *The 13th International Conference on Fracture*, Beijing, June 16-23, 2013.
- Session Organizer, ISSMGE TC201-TC210 Joint Session, *The 18th International Conference on Soil Mechanics and Geotechnical Engineering*, Paris, September 2013.
- Member of Organizing Committee, ICE & ASCE Joint Conference “*From Cavern to Reclamation: the Engineering Behind*”, Hong Kong, February 28, 2013
- Session Chair, *The Second International Symposium on Constitutive Modelling – Advances and New Applications*, Beijing, October 15-16, 2012.
- Session Chair, *The 9th US National and 10th Canadian Conference on Earthquake Engineering*, Toronto, July 25-29, 2010.
- Team Leader and Field Trip Instructor, Technical Visit to Hong Kong GeoParks: Sharp Island (September 24, 2011), Lai Chi Chong (July 6, 2013), Ma Shi Chau (May 31, 2014), Organized by ASCE Hong Kong Section.

PROFESSIONAL REVIEW FOR JOURNALS AND CONFERENCES

- **Review Recognition**

- Publons Peer Review Award 2018 for top 1% of reviewers in Engineering.
- Outstanding Contribution in Reviewing, awarded by *Soil Dynamics and Earthquake Engineering*, Nov. 2014, Jan 2017 (twice)
- Outstanding Contribution in Reviewing, awarded by *Engineering Geology*, 6/2017
- Outstanding Contribution in Reviewing, awarded by *Particuology*, Dec 2017.

- **Invited Reviewer for the Following (40+) International Journals:**

Geotechnical and Geological Engineering

(1) Journal of Geotechnical and Geoenvironmental Engineering, ASCE; (2) Canadian Geotechnical Journal; (3) Soils and Foundations; (4) Engineering Geology; (5) International Journal of Rock Mechanics and Mining Sciences; (6) Tunnelling and Underground Space Technology, Elsevier; (7) Journal of Mountain Science, Springer; (8) Georisk, Taylor and Francis; (9) Acta Geotechnica; (10) Computer and Geotechnics; (11) Indian Geotechnical Journal; (12) Landslides; (13) Marine Georesources & Geotechnology; (14) Geotechnique Letters; (15) Bulletin of Engineering Geology and the Environment

Earthquake Engineering

(16) Earthquake Engineering and Structural Dynamics, Wiley; (17) Bulletin of the Seismological Society of America; (18) Soil Dynamics and Earthquake Engineering,

Elsevier; (19) Earthquake Spectra; (20) Journal of Earthquake Engineering; (21) Earthquake Engineering and Engineering Vibration; (22) Earthquakes and Structures;

Structural Engineering and Mechanics

(23) Ocean Engineering; (24) Structural Design of Tall and Special Buildings; (25) Journal of Materials in Civil Engineering, ASCE; (26) Particuology; (27) Advances in Structural Engineering; (28) International Journal of Naval Architecture and Ocean Engineering; (29) Frontiers of Structural and Civil Engineering; (30) Structural Engineering and Mechanics, Techno Press; (31) Structural Safety, Elsevier; (32) Hong Kong Institution of Engineers (HKIE) Transactions; (33) Cities, Elsevier; (34) Applied Ocean Research, Elsevier; (35) Korean Journal of Civil Engineering;

Mechanics and Mathematics

(36) Science China G: Physics Mechanics and Astronomy; (37) Science China: Technological Sciences, Springer; (38) Journal of Engineering; (39) Applied Mathematics Letters, Elsevier; (40) Archive of Mechanics, Polish Academy of Sciences; (41) European Journal of Mechanics; (42) Scientific World Journal; (43) Mathematical Problems in Engineering; (44) Journal of Applied Mathematics, Hindawi Publishing;

• Invited Reviewer for the Following International Conferences:

- (1) Eighth U.S. National Conference on Earthquake Engineering, 2006, San Francisco;
 - (2) The 12th International Conference of International Association for Computer Methods and Advances in Geomechanics (IACMAG) 1-6 October, 2008, Goa, India.
 - (3) Australian Earthquake Engineering Society annual conference, 18-20 November 2011;
 - (4) 13th International Conference on Fracture, June 16-21, 2013, Beijing;
 - (5) Bologna Symposium, 2013;
 - (6) 4th International Symposium on Geotechnical Risk and Safety (ISGSR 2013), Hong Kong, Dec. 4-6, 2013;
 - (7) 10th International Workshop on Bifurcation and Degradation in Geomaterials, May 28-30, 2014, Hong Kong;
 - (8) 10th US National Conference on Earthquake Engineering, Anchorage, Alaska, July 2014;
 - (9) 2nd International Conference on Vulnerability and Risk Analysis and Management (ICVRAM2014), July 13-16, 2014, University of Liverpool, UK.
 - (10) ISSMGE Congress, Korea 2017.
- Invited External Reviewer for Tenure and Promotion, University of Macau, 2015.
 - Invited Patent Review for HKUST Technology Transfer Center, 2011.
 - Invited Expert Reviewer for Technical Reports by Hong Kong CEDD Geotechnical Engineering Office, 2012.
 - Book review for Taylor and Francis;
 - Book review of “Probabilistic Seismic Risk Analysis” by I Iervolino & M Giorgio for John Wiley & Sons Limited, Jan. 2016; “Probabilistic Seismic Hazard and Risk Analysis” by Jack W. Baker, Brendon A. Bradley and Peter J. Stafford, John Wiley & Sons Limited, Nov. 2016.
 - Invited Proposal Reviewer for Hong Kong Research Grants Council (RGC), Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant (2017).
 - Member of Technical Review Team for Centrifuge Model Tests and Numerical Analysis in the Seismic Retrofit of BART Offshore Tube Project. Bay Area Rapid Transit, California, 2007.