

Curriculum Vitae

Yu-Hsing Wang

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EDUCATION

- July 2001, Ph.D. in Civil Engineering, Georgia Institute of Technology (1997-2001).
- June 1994, Master of Science in Geotechnical Engineering, National Taiwan University (1992-1994).
- June 1992, Bachelor of Science in Civil Engineering, National Taiwan University (1988-1992).

HONORS/AWARDS

- Invited distinguished speaker, IEEE 6th World Forum on Internet of Things, 2021, New Orleans, USA.
- Invited speaker for IWHR Seminar Series on Geo-Frontiers, 2021, Institute of Water Resources and Hydropower Research, China
- Invited speaker for the technical tour, Hong Kong 2020 International Urban Forestry Conference.
- Keynote speaker, IAS Workshop on Emerging Scales in Granular Media, 2020, HK.
- Invited speaker, IEEE 5th World Forum on Internet of Things, 2019, Limerick, Ireland
- Plenary Lecture, 6th International Symposium on Reliability Engineering and Risk Management, 2018, Singapore.
- Invited distinguished speaker, IEEE 4th World Forum on Internet of Things, 2018, Singapore.
- The School of Engineering Teaching Award, HKUST, 2016-2017.
- Keynote lecturer at the International Symposium on Geomechanics from Micro to Macro. IS-Cambridge 2014, Cambridge, UK.
- Distinguished Alumni Award, Department of Civil Engineering, National Taiwan University, 2013.
- Finalist Teams, HKUST 2013 One Million Dollar Entrepreneurship Competition.

- Theme lecturer at the fifth International Symposium on Deformation Characteristics of Geomaterials (IS-Seoul 2011), Korea.
- The School of Engineering Teaching Award, HKUST, 2008-2009.
- ASTM International Hogentogler Award, 2005.
- George F. Sowers Distinguished Graduate Student Award for Ph.D. Students, Georgia Institute of Technology, 2002.
- Member, Phi Tau Phi Scholastic Honor Society at National Taiwan University, 1994.
- Fellowship from the Ministry of Education, National Taiwan University, 1993.

PATENT

- China patent, No. ZL201780069036.7.: Resistivity measurement cell measuring electrical resistivity anisotropy of unsaturated soil
- USA patent, No. 17/248559: Multifunctional and modular geotechnical testing device
- WO, No. WO2018087592A1
“Resistivity measurement cell measuring electrical resistivity anisotropy of unsaturated soil”
- WO, No. WO2017076343A1 and Chinese Patent applied, No. 2016800646232
“Making a biaxial testing system with the aid of 3D printing technique to examine the kinetic behavior of particulate media”
- US provisional patent (No. 63/237,144)
“Deep Learning Based 3D Point Cloud Object Detection Method”
- USA provisional patent No. 62/973996
“Building Unsupervised Anomaly Detection with the Normal Instances of Datasets”
- USA provisional patent, No. 62/392187
“Using film-like sensors for K_0 and pore water pressure measurement in clay during 1-D consolidation”
- USA provisional patent, No. 62/389087: Making a simple and portable oedometer system to determine the consolidation parameters of soils
- USA provisional patent, No. 62/708017
“Trusted Transaction Monitor”
- USA provisional patent, No. 62/389087
“Making a simple and portable oedometer system to determine the consolidation parameters of soils”

PROFESSIONAL REGISTRATIONS

- Professional Geotechnical Engineer, Taiwan (since 1996).
- Fellow, Hong Kong Institute of Engineers (since 2019)

PROFESSIONAL EXPERIENCES

- 2018 – present Associate head, Department of Department of Civil Environmental Engineering Engineering, The Hong Kong University of Science and Technology.
- 2016 – present Professor, Department of Department of Civil Environmental Engineering Engineering, The Hong Kong University of Science and Technology.
- 2008 – 2016 Associate Professor, Department of Department of Civil Environmental Engineering Engineering, The Hong Kong University of Science and Technology.
- 2001 – 2007 Assistant Professor, Department of Civil Engineering, The Hong Kong University of Science and Technology.
- 1997 – 2001 Research and Teaching Assistants, Georgia Institute of Technology, USA.
- 1996 – 1997 Engineer (Construction Management), Taiwan Area National Expressway Engineering Bureau (TANEEB), Taiwan.
- 1995 – 1996 Geotechnical Engineer, R&D Center, BES Engineering Corporation, Taiwan.
- 1992 – 1994 Research and Teaching Assistants, National Taiwan University, Taiwan.

AFFILIATIONS

- Assessor (Associate Editor), Géotechnique Letters (2016- Present)
- Editorial Board Member, Geomechanics and Engineering, an International Journal. (2008 – present)
- Associated Editor, The KSCE Journal of Civil Engineering (2010 - 2012)
- Associate Editor, The HKIE Transactions (2008 - 2012)
- Member, American Society of Civil Engineering (ASCE).
- Member, Society of Exploration Geophysicists
- Member, Hong Kong Geotechnical Society (HKGES).

- Member, Southeast Asian Geotechnical Society.
- Member, The International Society of Soil Mechanics and Geotechnical Engineering
- Geo-Mechanics from Micro to Macro (ISSMGE TC105).
- Member in Large, Hong Kong Society of Theoretical and Applied Mechanics (until 2009).
- Board Member (academic affairs), National Taiwan University Alumni Association (Civil and Geology) in Hong Kong (NTUAA) (2003-2013).
- Member in the Executive Committee, The Association of Geotechnical and Geoenvironmental Specialists (Hong Kong) (2010-2012).
- Ordinary member, HKIE Geotechnical Division (2010-2016).

RESEARCH GRANTS

- RGC General Research Fund, PI, HK\$911,317 (September 2021 – August 2024)
“AI-enabled detection, positioning and assessment of civil infrastructure defects using camera-LiDAR datasets”
- Sustainable Smart Campus as a Living Lab, PI, HKD 1,320,000 (01/2021-12/2023).
“You will see a hoopoe”
- Innovation and Technology Support Program (ITF), PI, HK\$ 1,399,492.50 (11/2019-04/2021, ITS/101/19)
“AiPollut Watcher - to watch street air pollution with intelligent eyes”
- Sustainable Smart Campus as a Living Lab, PI, HKD 1,465,000 (09/2019-08/2021).
“Internet of Tree Things (IoTT)”
- R&D Study with HK Drainage Service Department, PI, HKD 1,250,359 (11/2018-05/2020)
“Development of smart system for asset management of structural concrete – pilot study on Artificial intelligence-based building information modelling (AIBIM)”
- R&D Study with HK Drainage Service Department, PI, HKD 1,340,359 (06/2018-11/2019)
“Baseline assessment and site condition evaluation monitoring adopting big data-artificial intelligence technologies”
- The Hong Kong Jockey Club Charities Fund, Co-PI, HKD32,280,000 (02/2018-01/2021),
“Enhancement of urban three risk management: through the use of smart sensing technologies, capacity building and public education.”

- Innovation and Technology Support Program (ITF), Public Sector Trial Scheme, PI, HK\$497,306 (12/2016-11/2017),
“Development of an economical smart soil particle for natural slope instability monitoring”
- Innovative Teaching Development Projects, PI, HK\$ 200,000 (08/2017 – 01/2019),
“DESR (Data-Enabled Scalable Research) Lab-Incubator of Creative Learners and Hub of Transformation”
- RGC Theme-based Research Scheme (TRS), Co-I, HK\$ 33,225,000 (09/2015-08/2020),
“Understanding Debris Flow Mechanisms and Mitigating Risks for a Sustainable Hong Kong”
- Innovation and Technology Support Program (ITF), PI, HK\$ 1,398,947 (06/2015-05/2017),
“A Big Data Architecture and Machine Learning Initiative for Real-time Landslide Monitoring and Early Warning System in Hong Kong”
- RGC CRF, Co-PI, HK\$ 1,398,947 (06/2018 -05/2021),
“A modular drum centrifuge facility for research into mountain and estuary hazard mitigation and environmental protection”
- REC Research Equipment Competition, PI, HK\$120,962 (2014/15)
“Pressure Mapping System (I-scan Pressure Measurement System upgrade)”
- Innovation and Technology Support Program (ITF), PI, HK\$996,717 (09/2013-02/2015),
“Development of an economical smart soil particle for natural slope instability monitoring”
- Innovative Teaching Development Projects, PI, HK\$ 199,671 (08/2013 – 02/2015),
“Online Virtual Soil Lab. II”
- Post-Doctoral Fellowship (PDF) Matching Fund, PI, (March, 2013),
“The creep effects on granular materials in large strain scale”
- UGC - Research Infrastructure Grant, PI, HK\$50000 (01/10/2012 – 03/10/2014)
“Examining the mechanisms of aging, creep, and structuration in sand using innovative experiments and advanced DEM simulations”
- UGC - Research Infrastructure Grant, PI, HK\$50000 (15/10/2013 – 14/10/2015)
“Smart Soil Particle and Prototypical Wireless Smart Sensor Network”
- RGC Collaborative Research Fund, Co-I, HK\$8,000,000 (07/2013 – 06/2016),

“Green slope engineering: bioengineered, live cover systems for man-made fill slopes and landfill capillary barriers in Hong Kong”

- Innovative Teaching Development Projects, PI, HK\$ 184,185 (07/2012 – 06/2013),
“The HKUST Igniters Pilot Study”
- REC Research Equipment Competition, PI, HK\$120,962 (2010/11)
“Pressure Mapping System (I-scan Pressure Measurement System)”
- RGC General Research Fund, PI, HK\$ 1,613,381 (01/2011 – 12/2014),
“Examining the setup mechanisms of displacement piles in sand using well-instrumented centrifuge model tests and DEM simulations”
- IALO (Innovative Assessment of Learning Outcomes Projects), PI, HK\$ 310,000 (11/2009 - 10/2011)
“Online Virtual Soil Lab”
- RGC collaborative Research Fund, Co-I, HK\$6,670,000 (06/2010-05/2013),
“Green Slope Engineering for Hong Kong”
- RGC General Research Fund, PI, HK\$ 792,690 (09/2009 – 12/2012),
“Examining the initiation mechanisms of rainfall induced flow-like landslides using well-instrumented laboratory flume tests and fully-coupled numerical simulations”
- RGC Competitive Earmarked Research Grant (HKUST6034/02E), PI, HK\$959,404 (09/2002 – 08/2006),
“Understanding residual soil behavior at the particulate level with complementary wave-based characterizations”
- RGC Direct Allocation Grant (DAG01/02.EG01), PI, HK\$ 100,000 (01/2002 - 12/2002),
“The structure evolution of residual soils under various physico-chemical environments”
- RGC Direct Allocation Grant (DAG04/05.EG20), PI, HK\$ 77,000 (01/2004 - 12/2005),
“Understanding clay behavior at the particle level with the aid of complementary wave-based characterizations”
- Emerging High Impact Area (EHIA04/05.EG02), Co-PI, HK\$750,000 (09/2004 – 04/2007),
“Emerging Geohazards in Hong Kong and Pearl River Delta due to climate changes”
- Equipment Fund from School of Engineering, PI, HK\$ 500,000.
- Post-Doctoral Fellowship (PDF) Matching Fund, PI, (March, 2003),

“Particulate soil mechanics and micro-scale experimental studies”

RESEARCH INTERESTS

- Applications of Vertical AI and Green AI on Civil and Environmental Engineering, including sensor design (Geo-IoT and Open Smart Soil Particles, OpenSSP), data collection, big data, deep learning, and semantic integration.
- Innovative wave-based characterizations of geomaterials (using mechanical and electromagnetic waves)
- Experimental geo-micromechanics and DEM simulations
- Applications of 3D printing techniques on innovation of geotechnical testing devices and sensing techniques
- Physico-chemical soil behavior (with particular emphasis on the behavior of clayey soils)
- Initiation mechanisms of flow landslides
- Attenuation mechanisms and measurements in particulate media (damping ratio).

PUBLICATIONS

Theses

- Wang, Y.H. (1994). "A Study on the Trigger Mechanisms of Debris Flow," Master's Thesis, National Taiwan University.
- Wang, Y.H. (2001). "Attenuation in Soils and Non-linear Dynamic Effects," Ph.D. Thesis, Georgia Institute of Technology.

Journal Papers

- Lin, M.L. and Wang, Y.H. (1999). "The effects of surface runoff and ground water on the occurrence of debris flow", *Sino-Geotechnics*, Vol. 74, pp. 29-38 (in Chinese).
- Wang Y.H. and Santamarina, J.C. (2002). "Non-linear dynamic effects in frictional geomaterials-stochastic resonance-," *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 128, No. 11, pp. 952-962.
- Santamarina, J.C., Klein, K.A., Wang, Y.H., and Pretnice³, E. (2002). "Specific surface: determination and relevance," *Canadian Geotechnical Journal*, Vol. 39, No. 1, pp. 233-241.

- Wang, Y.H., Cascante, G., and Santamarina, J.C. (2003). "Resonant column testing: the inherent counter emf effect," *Geotechnical Testing Journal, ASTM*, Vol. 26, No.3. pp. 342-352.
- Wang, Y.H. and Siu, W.K. (2006). "Structure characteristics and mechanical properties of kaolinite soils. I. Surface charges and structural characterizations," *Canadian Geotechnical Journal*, Vol. 43, No. 6, pp.587-600.
- Wang, Y.H. and Siu, W.K. (2006). "Structure characteristics and mechanical properties of kaolinite soils. II. Effects of structure on mechanical properties," *Canadian Geotechnical Journal*, Vol. 43, No. 6, pp.601-617.
- Wang, Y.H. and Yan, W.M. (2006). "Laboratory studies of two common saprolitic soils in Hong Kong," *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 132, No. 7, pp. 923-930.
- Wang, Y.H., Yan, W.M., and Lo, K.F. (2006). "Damping ratio measurements by the spectral ratio method," *Canadian Geotechnical Journal*, Vol. 43, No. 11, pp. 1180-1194.
- Wang, Y.H., Lo, K.F., Yan, W.M., and Dong, X. (2007). "Measurement biases in the bender element test," *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 133, No. 5. pp. 564-574.
- Wang, Y.H. and Xu, D. (2007). "Dual porosity and secondary consolidation," *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*. Vol. 133, No. 7, pp. 793-801.
- Wang, Y.H. and Siu, W.K. (2007). "Reply to the discussion by Sridharan et al. on "Structure characteristics and mechanical properties of kaolinite soils. I. surface charges and structural characterizations," *Canadian Geotechnical Journal*, Vol. 44, No. 2, pp. 243-243.
- Wang, Y.H. and Santamarina, J.C. (2007). "Attenuation in sand - an exploratory study on the small-strain behavior and the influence of moisture condensation," *Granular Matter*, Vol. 9, No. 6, pp. 365-376.
- Wang, Y.H. and Leung, S.C. (2008). "A particulate-scale investigation of cemented sand behavior," *Canadian Geotechnical Journal*, Vol. 45, No. 1, pp. 29-44.
- Wang, Y.H. and Dong, X. (2008). "Complementary wave-based characterizations of sedimentation processes," *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 134, No. 1, pp. 47-56.

- Wang, Y.H. and Dong, X. (2008). “Characterizing the spatial variability in soils by the EM-wave-based technique,” *Canadian Geotechnical Journal*, Vol. 45, No. 1, pp. 102-116.
- Wang, Y.H. and Leung, S.C. (2008). “Characterization of cemented sand by experimental and numerical investigations,” *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 134, No. 7, pp. 992-1004.
- Wang, Y.H., Xu, D., and Tsui, K.Y. (2008). “Discrete element modeling of contact creep and aging in sand,” *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 134, No. 9, pp. 1407-1411.
- Wang, Y.H., Mok, C.M.B. (2008). “Mechanisms of small-strain shear-modulus anisotropy in soils,” *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 134, No. 10, pp. 1516-1530.
- Dong, X. and Wang, Y.H. (2008). “The effects of the pH-influenced structure on the dielectric properties of kaolinite sediments,” *Soil Science Society of America Journal*, Vol. 72, No. 6, pp. 1532-1541.
- Wang, Y.H. and Tsui, K.Y. (2009). “Experimental characterization of dynamic property changes in aged sands,” *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 135, No. 2, pp. 259-270
- Wang, Y.H., Ma, C.H., Yan, W.M. (2009). “Characterizing bond breakages in cemented sands using a MEMS accelerometer,” *Geotechnical Testing Journal, ASTM*. Vol. 32, No. 2, DOI: 10.1520/GTJ101469.
- Dong, X. and Wang, Y.H. (2009). “A broadband dielectric measurement technique: theory, experimental verification, and application,” *Journal of Environmental and Engineering Geophysics*. Vol. 14, No. 1, pp. 25-38.
- Kang, D.H., Yun, T.S., Lau, Y.M., and Wang, Y.H. (2012). “DEM simulation on soil creep and associated evolution of pore characteristics,” *Computers and Geotechnics*, Vol. 39, pp. 98-106.
- Gao, Y., Wang, Y.H., and Su, J.C.P. (2013). “Mechanisms of aging-induced modulus changes in sand under isotropic and anisotropic loading,” *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 139, No. 3, pp. 470-482.
- Wang, Y.H. and Gao, Y. (2013). “Mechanisms of aging-induced modulus changes in sand with inherent fabric anisotropy,” *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 139, No. 9, pp. 1590-1603.

- Gao, Y. and Wang, Y.H. (2013). “Calibration of tactile pressure sensors for measuring stress in soils,” *ASTM Geotechnical Testing Journal*. Vol. 36, No. 4, doi:10.1520/GTJ20120143.
- Niu, Q. and Wang, Y.H. (2013). “Theoretical and experimental examinations of the capacitively-coupled resistivity (line antenna) method,” *Geophysics*, Vol. 78, No. 4, pp. E189-E199.
- Wang, Y.H. and Gao, Y. (2014). “Examining the behavior and mechanisms of structuration in sand under the K_0 condition,” *Granular Matter*. Vol. 16, No. 1, pp. 55-68. (DOI) 10.1007/s10035-013-0457-1.
- Gao, Y. and Wang, Y.H. (2014). “Experimental and DEM examinations of K_0 in sand under different loading conditions,” *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 140, No. 5, DOI: 10.1061/(ASCE)GT.1943-5606.0001095.
- Niu, Q. and Wang, Y.H. (2014). “Inversion of capacitively coupled resistivity (line antenna) measurements.” *Geophysics*, Vol. 79, No. 3, pp. E125-E135. DOI: 10.1190/geo2013-0282.1.
- Niu, Q. and Wang, Y.H., and Zhao, K. (2014). “Evaluation of the capacitively coupled resistivity (line antenna) method for the characterization of vadose zone dynamics,” *Journal of Applied Geophysics*, Vol. 106, pp. 119–127.
- Wang, Y.H., Lau, Y.M., and Gao, Y. (2014). “Examining the mechanisms of sand creep using DEM simulations,” *Granular Matter*, Vol. 16, No. 5, pp.733-750.
- Ooi, G.L., Wang, Y.H., Tan, P.S., So, C.F., Leung, M.L., Li, X., and Lok, K.H. (2014). “An instrumented flume to characterize the initiation features of flow landslides,” *ASTM Geotechnical Testing Journal*, Vol. 37, No. 5, DOI: 10.1520/GTJ20130158.
- Tong, L. and Wang, Y.H. (2015). “DEM simulations of shear modulus and damping ratio of sand with emphasis on the effects of particle number, particle shape, and aging,” *Acta Geotechnica*, Vol. 10, pp.117-130, DOI: 10.1007/s11440-014-0331-2.
- Zhang, Z. and Wang, Y.H. (2015). “Examining setup mechanisms of driven piles in sand using laboratory model pile tests,” *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Vol. 141, No. 3, 04014114, doi: 10.1061/(ASCE)GT.1943-5606.0001252.
- Niu, Q., Fratta, D., Wang, Y.H. (2015). “The use of electrical conductivity measurements in the prediction of hydraulic conductivity of unsaturated soils,” *Journal of Hydrology*, Vol. 522, pp. 475-487. doi: <http://dx.doi.org/10.1016/j.jhydrol.2014.12.055>.

- Zhang, Z. and Wang, Y.H. (2015). “Three-dimensional DEM simulations on monotonic jacking in sand,” *Granular Matter*, Vol. 17, No. 3, 359-376.
- Jain, S., Wang, Y.H., and Fredlund, D.G. (2015). “Non-contact sensing system to measure specimen volume during shrinkage test,” *ASTM Geotechnical Testing Journal*, Vol. 38, No. 6, pp. 936-949, doi: 10.1520/GTJ20140274.
- Gao, Y., Wang, Y.H., and Su, J.C.P. (2015). “Experimental characterizations of the influence of fines on the stiffness of sand with inherent fabric anisotropy,” *Soils and Foundations*, Vol. 55, No. 5, pp. 1148-1157.
- Zhang, Z. and Wang, Y.H. (2016). Closure to "Examining setup mechanisms of driven piles in sand using laboratory model pile tests", discussion by J.K. Lim and B.M. Lehane, *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*. Vol, 142, No. 2, doi: 10.1061/(ASCE)GT.1943-5606.0001252.
- Wang, Y.H., Gao, Y., and Ooi, G.L. (2016). “Experimental characterizations of an aging mechanism of sands,” *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*. Vol. 142, No. 2, doi: 10.1061/(ASCE)GT.1943-5606.0001413.
- Gao, Y. and Wang, Y.H. (2016). “Experimental characterization of deformation, K_0 , stiffness, and contact force distributions of sand during secondary compression and rebound,” *Canadian Geotechnical Journal*, Vol. 53, No. 5, dx.doi.org/10.1139/cgj-2014-0324.
- Yuan, Q., Wang, Y.H., Tam, P.O., Li, X. and Gao, Y. (2016). “Making a biaxial testing system with the aid of 3D printing technique to examine the kinetic behavior of particulate media,” *ASTM Geotechnical Testing Journal*, Vol, 39, No. 2, pp. 264-281.
- Yu, C.Y., Chow, J.K. and Wang, Y.H., (2016). “Pore-size changes and responses of kaolinite with different structures subject to consolidation and shearing,” *Engineering Geology*, Vol. 202, March, pp. 122-131.
- Niu, Q., Zhao, K, Wang, Y.H., and Wu, Y. (2016). “Examining the influence of vegetation on slope hydrology in Hong Kong using capacitive resistivity technique,” *Journal of Applied Geophysics*, Vol., 129, No. 6, doi:10.1016/j.jappgeo.2016.03.042, pp.148-157.
- Zhang, Z. and Wang, Y.H. (2016). “DEM modelling of aging or creep in sand based on the effects of microfracturing of asperities and evolution of microstructural anisotropy during triaxial creep,” *Acta Geotechnica*, Vol. 11, No. 9, pp. 1303-1320, doi: 10.1007/s11440-016-0483-3.

- Yuan, Q., Wang, Y.H., Tam, P.O. and Li, X., and Gao, Y. (2017). “Kinematic features of particles and associated contact movements in response to direct shearing,” *International Journal of Geomechanics, ASCE*. Vol. 17, No. 1, 2017, pp. 1-15, doi: 10.1061/(ASCE)GM.1943-5622.0000685.
- Gao, Y., Wang, Y.H., and Chow, J.K. (2017). “Using film-like sensors for K_0 and pore water pressure measurement in clay during 1-D consolidation,” *ASTM Geotechnical Testing Journal*, Vol. 40, No. 1, pp. 134-143, doi: 10.1520/GTJ20160008.
- Wu, Y, Wang, Y.H., and Niu. Q. (2017). “Integrating the four-probe method and SWCC device to measure electrical resistivity anisotropy of unsaturated soil,” *ASTM Geotechnical Testing Journal*, Vol. 40, No. 4, pp. 698-709.
- Chow, J.K. and Wang, Y.H. (2017). “Preparation of high-quality load-preserved fabric clay samples for microstructural characterizations: a pragmatic guide featuring a 3D-printed oedometer,” *ASTM Geotechnical Testing Journal*, Vol. 40, No. 5, pp. 891-905.
- Li, Z. and Wang, Y.H., Li, X., and Quan, Y. (2017). “Validation of Discrete Element Method by simulating a 2D assembly of randomly packed elliptical rods,” *Acta Geotechnica*, Vol. 12, No. 3, pp 541–557.
- Revil, A., Niu, Q., Li, Z., and Wang, Y.H. (2017). “Relationship between electrical conductivity anisotropy and fabric anisotropy in granular materials during drained triaxial compressive tests: a numerical approach,” *Geophysical Journal International*, Vol. 210, No. 1, pp. 1-17.
- Li, Z. and Wang, Y.H., Ma, C.H., and Mo, C.M.B. (2017). “Experimental characterization and 3D DEM simulation of bond breakages in artificially cemented sands with different bond strengths when subjected to triaxial shearing,” *Acta Geotechnica*, Vol. 12, No. 5, pp. 987–1002.
- Li, Z., Wang, Y.H., Chow, J.K., Su, Z. and Li, X. (2018). “3D pore network extraction in granular media by unifying the Delaunay tessellation and maximal ball methods,” *Journal of Petroleum Science and Engineering*, Vol. 167, pp. 692-701.
- Zhang, Z. and Wang, Y.H. (2018). “An innovative experimental setup for characterizing friction fatigue during cyclic jacking of piles in dense sand,” *Geotechnical Testing Journal*, doi: 10.1520/GTJ20180075.
- Li, Z. and Wang, Y.H. (2018). “Density effect and associated unjamming events on the aging-induced stiffness increase in sand,” *International Journal of Geomechanics*, Vol. 18, No. 2, 04018173-1~ 04018173-11.

- Chow, J.K., Li, Z. and Wang, Y.H. (2019). “Comprehensive microstructural characterizations of 1-D consolidated kaolinite samples with fabric tensors and pore elongation factors,” *Engineering Geology*, Vol. 248, 22-33.
- Wu, Y., Chow, J.K., Wang, Y.H. and Ooi, G.L. (2019). “New methods for the arrival time determination in bender element tests for time-lapsed Vs tomography,” *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 145, No. 9, 04019049-1 ~ 04019049-11.
- Yuan Q., Li, Z., Gao, Y., Wang, Y. H., and Li, X. (2019). “Local responses in 2D assemblies of elliptical rods when subjected to biaxial shearing,” *Acta Geotechnica*, Vol, 14, pp. 1685-1697.
- Wu, Y., Chow, J.K., Wu, J. and Wang, Y.H. (2020). “Time-lapsed Vs tomographic images and stress in sand surrounding the displacement pile during setup,” *Canadian Geotechnical Journal*, Vol. 57, 635–649.
- Orangi, A., Narsilio, G. A., Wang, Y. H. and Ryu, D. (2020). “Experimental investigation of dry density effects on dielectric properties of soil–water mixtures with different specific surface areas.” *Acta Geotechnica*. Vol. 15, pp. 1153-1172.
- Chow, J.K., Wang, Y.H., Lui, H.L. and Huang, E. (2020). “Determination of consolidation parameters based on the excess pore water pressure measurement using a newly developed U-oedometer.” *Acta Geotechnica*, 15, 2665–2680
- Chow, J.K., Su, Z., Wu, J., Tan, P.S. Mao, X. and Wang, Y.H. (2020). “Anomaly detection of defects on concrete structures with the convolutional autoencoder,” *Advanced Engineering Informatics*, Vol. 45, 101105.
- Chow, J.K., Su, Z., Wu, J., Li, Z., Tan, P.S. Liu, K.F., Mao, X. and Wang, Y.H. (2020). “Artificial intelligence-empowered pipeline for image-based inspection of the civil infrastructures,” *Automation in Construction*, 120, 103372
- Su, Z., Chow, J.K., Tan, P.S., Ho, Y.K. and Wang, Y.H. (2020). “Deep convolutional neural network–based pixel-wise landslide inventory mapping,” *Landslides*, 18, pp. 1421–1443. DOI 10.1007/s10346-020-01557-6.
- Yuan, Q., Yan, G., Li, Z., and Wang, Y.H. (2020). “Experimental characterizations of fabric correlation in 2D rod assemblies subjected to biaxial shearing,” *European Journal of Environmental and Civil Engineering*, DOI: 10.1080/19648189.2020.1814874.
- Wu, Y., Zhang, Z., Chow, J.K., Wang, Y.H. and Leung, M.L. (2020). “Automated high-speed S-wave velocity tomographic system for laboratory geotechnical

engineering process monitoring – a study on pile installation,” *Geotechnical Testing Journal*, DOI: 10.1520/GTJ20190310.

- Mao, X. Chow, J.K., Tan, P.S., Liu, K.F., Wu, J., Su, Z., Cheong, Y.H., Ooi, G.H., Pang, C.C., Wang, Y.H. (2021). “Domain randomization-enhanced deep learning models for bird detection,” *Scientific Reports*, 11, 639. <https://doi.org/10.1038/s41598-020-80101-x>.
- Chow, J.K., Li, Z., Su, Z. and Wang, Y.H. (2021). “Microstructural characterizations of clay samples using the deep learning-based technique,” *Acta Geotechnica*, <https://doi.org/10.1007/s11440-021-01266-x>
- Mao, X., Chow, J.K., Su, Z., Wang, Y.-H., Li, J., Wu, T., and Li, T. (2021). Deep learning-enhanced extraction of drainage networks from digital elevation models. *Environmental Modelling and Software*, Volume 144, 105135.
- Tong, L., Gao Y., and Wang, Y.H. (2021) "DEM simulations of energy dissipation in sand under static and cyclic loading," *Journal of Testing and Evaluation*, Vol. 49, no. 1, pp. 28-44.
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- Chen, Q., Gao, Y., Yuan, Q., and Wang, Y.H. (2022). “The correlation of macro deformation and micro kinematics for dense granular material subjected to shearing,” *Computers and Geotechnics*, Vol. 141, 104523.

Book Chapter or Special Publication

- Santamarina, J.C., Rinald, V., Fratta, D., Klein, K., Wang, Y.H., Cho, G.C., Cascante, G. (2005). “The Properties of near-surface soils in relation to elastic and electromagnetic wave Parameters,” in *Near-Surface Geophysics*, Ed. D. Buttler, SEG. pp. 71-87.
- Dong, X. and Wang, Y.H. (2006). “Wave-based characterizations of sand behavior under the K_0 -condition,” *Geotechnical Special Publication No. 149*, Site and Geomaterial Characterization, pp. 167-173.
- Wang, Y.H., and Tsui, K.Y. (2008). “Density effects on the aging behavior of sands and the anisotropy of aging-induced stiffness increases,” *Geotechnical Special Publication No. 181*; *Geotechnical Earthquake Engineering and Soil Dynamics IV*.

- Ooi, G.L. and Wang, Y.H. (2014). "Applying MEMS accelerometers to measure ground vibration and to characterize landslide initiation features in laboratory flume test," Geotechnical Special Publication No. 234; Geo-characterization and modeling for sustainability, pp. 2019-2028.

Book Editors

- Ng, C.W.W., Zhang, L.M., and Wang, Y.H. (2006). Proceedings of the 6th International Conference on Physical Modelling in Geotechnics- ICPMG'06, Hong Kong.

Conference Papers

- Lin, M.L., Wang Y.H., and Chou, Y.H. (1997). "Effects of water supply modes on the trigger mechanisms of debris flow," 7th Geotechnical Engineering Conference, Taipei, Taiwan, Vol., II, pp. 899-906 (in Chinese).
- Klein, K., and Wang, Y.H. (2003), "Towards a better understanding of the electromagnetic properties of soils," Symposium on the Mechanics of Physicochemical and Electromechanical Interactions in Porous Media, Netherlands.
- Wang, Y.H. and Fredlund, D.G. (2003). "Towards a better understanding of the role of the contractile skin," 2nd Asian Conference on Unsaturated Soils, Osaka, pp. 419-424.
- Dong, X., Wang, Y.H., and Siu, W.K. (2003). "Contact behavior of saprolitic volcanic soils in Hong Kong," The International Conference on Slope Engineering, Hong Kong, Vol. I, pp. 368-373.
- Wang, Y.H. and Siu, W.K. (2004). "Attenuation of soils at small-strains," 11th International Conference on Soil Dynamics and Earthquake Engineering, Berkeley, USA. Vol. I, pp. 445-452.
- Wang, Y.H., Yan, W.M., and Lo, K.F. (2004). "Laboratory and in-situ measurement of attenuation in soils," Proceedings of the 2nd International Conference on Site Characterizations, Porto, edited by Viana da Fonseca, A. and Mayne, P.W., Vol. II, pp.1883-1889.
- Dong, X. and Wang, Y.H., (2005). "EM-wave based characterizations of local void ratios in soils," Geo-Frontier, Austin, USA.
- Wang, Y.H. and Siu, W.K. (2005). "Chemical-mechanical coupling in kaolinite – structural characterizations and dynamic properties," International Conference on Problematic Soils, Famagusta, N. Cyprus, Vol. I, pp. 451-458.

- Dong, X. and Wang, Y.H. (2006). “Broadband characterizations of material permittivity with a small-sized open-ended coaxial probe, Geo-Congress Conference 2006, Atlanta, USA.
- Mok, C.M.B., Wang, Y.H., Lo, K.F., and Yan⁵, W.M. (2006). “Modeling of in-situ seismic tests using a laboratory true triaxial box,” International Conference on Physical Modelling in Geotechnics, Hong Kong, Vol. I, pp. 285-291.
- Wang, Y.H., and Leung, S.C. (2006). “Integrated investigation on the particulate behavior of cemented sand by experimental characterizations and DEM simulations,” The International Symposium on Geomechanics and Geotechnics of Particulate Media, IS-Yamaguchi 06, Ube, Japan (only for poster and presentation).
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- Cheuk, C.Y., Ng, C.W.W., Wang, Y.H., Tham, L.G., Yin, J.H., and Wong, R.H.C. (2007). “Laboratory testing of soils and rocks in Hong Kong’s universities,” Proceedings, Geotechnical Advancements in Hong Kong since 1970s, Hong Kong, pp. 33-53.
- Wang, Y.H. and Dong, X. (2008). “Broadband dielectric spectra of soft clay sediments,” The 3rd International Conference on Site Characterization, ISC’3, Taipei, Taiwan, April 1-4, 2008.
- Wang, Y.H., Ma, C.H., Tsui, K.Y., and Mok, C.M.B. (2008). “Sampling effects on the property degradation in soils,” The 3rd International Conference on Site Characterization, ISC’3, Taipei, Taiwan, April 1-4, 2008.
- Wang, Y.H., Leung, S.C., and Mok, C.M.B. (2008). “Investigations of the cemented sand behavior using the DEM simulations,” The 4th International Symposium on Deformation Characteristics of Geomaterials, IS-Atlanta 2008.
- Wang, Y.H. and Dong, X. (2009). “Wave-based characterizations of soils derived from rock weathering,” The 17th International Conference on Soil Mechanics and Geotechnical Engineering. 5-9 October 2009, Alexandria, Egypt.
- Ooi, G.L., Wang, Y.H., Wong, T.W., and Wong, C.S. (2010). “An exploratory study on the application of miniature sensors in monitoring landslide motion,” 7th International Conference on Physical Modelling in Geotechnics (ICPMG 2010), ETH Zurich, Vol. 2, 367-372.

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- Wang, Y. and Wang, Y.H. (2011). "Fully-coupled numerical simulations on the initiation of a flow landslide in a loose slope," The 14th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering, 14ARC, May, Hong Kong, 2011.
- Gao, Y. and Wang Y.H. (2011). "Aging effects on fabric-induced, small-strain, stiffness anisotropy in sand," The fifth International Symposium on Deformation Characteristics of Geomaterials (IS-Seoul 2011), Seoul, Korea. Vol. 1, pp. 571-577.
- Tong, L. and Wang, Y.H. (2011). "DEM Simulations on the energy dissipation in soil under static and cyclic loading," The fifth International Symposium on Deformation Characteristics of Geomaterials (IS-Seoul 2011), Seoul, Korea. Vol. 1, pp. 614-619.
- Niu, Q. and Wang, Y.H. (2012). "Comparing the ground resistivity measured by the DC and capacitively-coupled resistivity methods," The 4th International Conference on Geotechnical and Geophysical Site Characterization (ISC'4) Porto de Galinhas, Pernambuco – Brazil, September 18-21, 2012.
- Zhao, K., Niu, Q. and Wang, Y.H. (2012). Monitoring water front movement in a green slope using the capacitively-coupled resistivity method. 3rd International Conference on Soil Bio- and Eco-engineering. The Use of Vegetation to Improve Slope Stability –July 2012 23-27, Vancouver, Canada.
- Gao, Y. and Wang, Y.H. (2012). "Examining stiffness changes in sand during the process of structuration," The 2012 International Conference on Geomechanics and Engineering (ICGE'12), August 26-29, 2012, Seoul, Korea.
- Yuan, Q., Tam, P.O., Li, X. and Wang, Y.H. (2012). "Micro-scale investigation on kinematic behavior of particulate medium in response to shearing," The 2012 International Conference on Geomechanics and Engineering (ICGE'12), August 26-29, 2012, Seoul, Korea.
- Wang, Y. and Wang, Y.H. (2012). "Coupled numerical simulations on the initiation of a flow landslide in a loose slope," The 2012 International Conference on Geomechanics and Engineering (ICGE'12), August 26-29, 2012, Seoul, Korea.

- Gao, Y. and Wang, Y.H. (2013). “An exploratory study on mechanisms of aging-induced modulus changes in sand,” Experimental Micromechanics for Geomaterials Joint workshop of the ISSMGE TC101 and TC105, Hong Kong, May 2013.
- Zhang, Z. and Wang, Y.H. (2013). “Examining the stress evolution in surrounding soil during pile setup,” Experimental Micromechanics for Geomaterials Joint workshop of the ISSMGE TC101 and TC105, Hong Kong, May 2013.
- Yuan, Q., Wang, Y.H., Tam, P.O. and Li, X. (2013). “Examining the kinematic behavior of particulate media with elliptical particle shapes in response to shearing,” Experimental Micromechanics for Geomaterials Joint workshop of the ISSMGE TC101 and TC105, Hong Kong, May 2013.
- Wang, Y.H., Ooi, G.L. and Gao, Y. (2013). “New sensing technology and new applications in geotechnical engineering,” The 18th International Conference on Soil Mechanics and Geotechnical Engineering, September 2-5, 2013, Paris, France.
- Zhang, Z. and Wang, Y.H. (2014). “3D DEM simulation of a centrifuge model pile test, NUMGE 2014, Delft, The Netherlands, June, 2014. Vol. 1, pp.433-438.
- Zhang, Z. and Wang, Y.H. (2014). “The use of P-wave velocity tomography – a particular application on exploring the mechanism of friction fatigue,” The International Symposium on Geomechanics from Micro to Macro (IS-Cambridge 2014), Cambridge, UK, September, 2014. Vol. 2, pp.1165-1170.
- Ooi, G.L., Tan, P.S., Lin, M.L., Wang, K.L., Zhang, Q., and Wang, Y.H. (2015). “Near real-time landslide monitoring with the smart soil particles,” The 15th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering 15 ARC, Fukuoka, Japan, 9 – 13 November 2015.
- Zhang, Z. and Wang, Y.H. (2015). “Examining the initiation mechanisms of static and dynamic liquefaction using three dimensional DEM simulations,” COMPDYN 2015 5th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, Crete Island, Greece, 25–27 May 2015. Vol. 2, pp. 4672-4681.
- Li, Z., Wang, Y.H. and Li, X. (2015). “Validation of contact model between two cylindrical rods and DEM simulations of biaxial tests on a rod packing, The Sixth International Symposium on Deformation Characteristics of Geomaterials, Buenos Aires, Argentina. Vol. 6, pp.671-678.

- Chow, J.K., Ooi, G.L. and Wang, Y.H. (2015). “Environmentally friendly transparent soil,” The Sixth International Symposium on Deformation Characteristics of Geomaterials, Buenos Aires, Argentina. Vol. 6, pp. 511-517.
- Niu, Q., Wang, Y.H., Wu, Y., (2015). “The use of the capacitive resistivity method to study geo-environmental related problems,” the 1st International Conference on Geo-Energy and Geo-Environment, Dec. 4-5, Hong Kong.
- Wu, Y., Wang, Y.H., Zhang, Z., (2016). “Evaluation of landfill cover performance in Hong Kong using DC and CC resistivity methods,” 5th International Conference on Geotechnical and Geophysical Site Characterization, ISC’5, 5-9, Sept, Queensland, Australia, pp. 1541.
- Chow, J.K., Wang, Y.H. and Gao, Y. (2016). “Application of the film-like sensors for K_0 and pore water pressure measurement in soil samples,” The Twenty-ninth KKHTCNN Symposium on Civil Engineering, Hong Kong, December 2016.
- Li, Z., Wang, Y.H., Yuan, Q. (2016). “Application of 3D printing technique to geotechnical engineering: fabricating a biaxial testing system to investigate the kinematic behavior of granular materials,” The Twenty-ninth KKHTCNN Symposium on Civil Engineering, Hong Kong, December 2016.
- Li, Z., Wang, Y.H., Chow, J.K. (2017). “Applying the artificial neural network to predict the soil responses in the DEM simulation,” The Second International Conference on Civil Engineering and Materials Science, Seoul, Korea, May 2017.
- Ooi, G.L. Wang, Y.H., Tan, P.S., Zhang. Z., Gao, Y., Chow, J.K., Wu, Y., and Yuan, Q. (2017). “Customizable and scalable geotechnical laboratory testing and field monitoring with new sensing and big data technologies,” The 19th International Conference on Soil Mechanics and Geotechnical Engineering, September 17-22, 2017, Seoul, Korea.
- Li, Z., Chow, J.K., Wang, Y.H., Yuan, Q., Li, X. and Gao, Y. (2018). “Discrete element experiment and simulation,” In Proceedings of China-Europe Conference on Geotechnical Engineering, 13. – 16. August, Vienna, Austria, DOI: 10.1007/978-3-319-97112-4_53.
- Chow, J.K., Li, Z. and Wang, Y.H. (2019). “An experimental microstructural characterization of high-quality, load-preserved fabric 1-D consolidation kaolinite samples,” 7th International Symposium on Deformation Characteristics of Geomaterials, Glasgow, June. UK.

- Wang, Y.H., Chiu, S.W., Lin, M.L., Wang, K.L., Zhang, Q., Tan, P.S., Ooi, G.L., Leung, M.L., Wu, J., Chau, W.Y. and Lau, Y.M. (2019). "GeoRiskAware IoT for a smart and resilient city," The 16th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering, October 14-18, 2019.
- Chow, J.K., Yip, L.Y., Chow, K.C., Tan, P.S., Ooi, G.L., Leung, M.L., Liu, K.F., Lui, H.L., Wu, J., Mao, X., Su, Z. and Wang, Y.H. (2019). "Next-Generation AI-driven asset monitoring for proactive environmental and maintenance decision," IWA-ASPIRE 2019.
- Tan, P.S., Ooi, G.L., Chow, J.K., Leung, M.L., Liu, K., Lui, H.L., Wu, J., Mao, X., Su, Z., Cheong, Y.H., Yiu, W.H., Chau, W.Y. and Wang, Y.H. (2019). "IoT and Geospatial AI for climate and extreme weather resilience smart cities," IWA-ASPIRE 2019, Smart Solutions for Water Resilience, Hong Kong, 31 October-2 November 2019.

INVITED TALK AND SHORT COURSE

- November 24th, 2021. Sharing with visitors from Highways Department
Presentation title: Vertical AI – An Integrated Human-AI-Robot Symbiotic Solution.
- November 15th, 2021. Sharing with visitors from EMSD
Presentation title: Vertical AI – An Integrated Human-AI-Robot Symbiotic Solution.
- October 26th 2021, Invited talk at SMEC Hong Kong
Presentation title: Vertical AI – An Integrated Human-AI-Robot Symbiotic Solution for Smart and Resilient Cities.
- September 17th 2021, Invited speaker, IWHR Seminar Series on Geo-Frontiers, Institute of Water Resources and Hydropower Research, China
Presentation title: Vertical AI – An Integrated Human-AI-Robot Symbiotic Solution for Smart and Resilient Cities.
- September 16th 2021, Invited speaker, Joint Technical Symposium on Digital Geosciences & Geotechnology, Hong Kong.
Presentation title: Vertical AI – An Integrated Solution for A Smart and Resilient City
- July 15th 2021, Invited distinguished speaker, IEEE 6th World Forum on Internet of Things, 2021, New Orleans, USA.
Presentation title: Green AI for Environmental Protection, Conservation, and Rehabilitation.
- October 29th 2020, Webinar, Tianjin University

Presentation title: Vertical AI – An integrated solution for smart and resilient city

- October 10th, 2020, Webinar, Smart City For Urban Forest? What Can Big Data And Technology Bring Changes To Us, Hong Kong

Presentation Title: City-scale tree monitoring with the LoRaWAN-based sensor system, Internet of Tree Things (IoTT)

- January 17th, 2020, invited speaker for presentation and technical hour at the Hong Kong 2020 International Urban Forestry Conference

Title: Internet of Tree Things (IoTT)

- January 16th, 2020, Keynote speaker at the IAS Workshop on Emerging Scales in Granular Media

Presentation title: Innovations in Clay Fabric Characterizations Using 3D Printing and Deep Learning Techniques

- October, 26th, 2019, University of Macau

Presentation title: Vertical AI for Smart and Resilient City

- October, 25th, 2019, Invited speaker at the Symposium on Smart Infrastructure and Geotechnical Engineering Innovation, Macau Association of Geotechnical Engineering

Presentation title: Vertical AI for Smart and Resilient City

- October, 19th, 2019, Community and Private Property Tree Management Seminar

Presentation title: Jockey Club Smart City Tree Management Project

- October, 18th, 2019, Keynote speaker at Cross Strait 3 Places Engineering Geology Conference.

Presentation title: IoT and Geospatial AI for smart and resilient city.

- September 20th, 2019, Construction innovation and technology application center (CITAC) technical conference-Innovative materials and sensing technologies for construction

Presentation title: IoT and Geospatial AI for smart and resilient city.

- June 25th, 2019, HKIE seminar.

Presentation title: Vertical AI – An integrated solution for smart and resilient city

- May 30th, 2019, Innotech Forum on Geotechnology (GEO Forum)

Presentation title: Vertical AI for Geotechnical Engineering

- April 18th, 2019, Invited speaker, IEEE World Forum on Internet of Things, Limerick, Ireland.

Presentation title: Vertical AI and AI-enabled sensing for a Smart and Resilient City

- April, 1st, 2019, Seminar at Geotechnical Engineering Office,
Presentation title: AI-Enabled Sensors and Sensing System for Smart and Resilient City
- January 11th, 2019, Invited speaker, GREAT Smart Cities Connect Conference 2019 – The Greater Bay Area.
Presentation title: Vertical AI for a Smart and Resilient City
- December 5th, 2018, Invited speaker, Hong Kong Drainage Services Department R&D Forum.
Presentation title: Vertical AI for a Smart and Resilient City: from Natural Hazard Resiliency Assessment to Real-Time Artificial Intelligence-Based Environmental Impact Assessment (AIEIA).
- December 1st, 2018, Invited speaker and panel discussor (Panel of harnessing the power of data Science to address critical global issues), The opening of The Hong Kong Jockey Club University of Chicago Academic Complex, The University of Chicago Francis and Rose Yuen Campus in Hong Kong.
Presentation title: Vertical AI for Natural Hazard Resilience.
- October 18th, 2018, Invited speaker, Hong Kong Observatory Research Forum 2018: Leveraging Big Data and Artificial Intelligence in Weather Observations and Forecasting.
Presentation title: Transfer Learning: From Landslide Identifications and Predictions to Weather Observations and Forecasting using Big Data and Artificial Intelligence.
- June 1st, 2018, Plenary Lecture, 6th International Symposium on Reliability Engineering and Risk Management, Singapore.
Presentation title: Big data and AI enabled slope-health monitoring and diagnosis.
- March, 23, 2018, to MTR
Presentation title: Data Enabled Scalable Research (DESR) Laboratory
- March, 12, 2018, at the Agriculture, Fisheries and Conservation Department
Presentation title: Data Enabled Scalable Research (DESR) Laboratory
- March, 05, 2018, at the Drainage Services Department
Presentation title: Data Enabled Scalable Research (DESR) Laboratory
- March, 01, 2018, at Water Supply Department
Presentation title: Data Enabled Scalable Research (DESR) Laboratory
- February, 28, 2018, at the Airport Authority
Presentation title: Data Enabled Scalable Research (DESR) Laboratory

- February, 27, 2018, at Logistics and Supply Chain Management Enabling Technologies (LSCM)
Presentation title: Data Enabled Scalable Research (DESR) Laboratory
- February, 22, 2018, to the Agriculture, Fisheries and Conservation Department and Highways Department
Presentation title: Data Enabled Scalable Research (DESR) Laboratory
- February, 7, 2018, Invited distinguished speaker, IEEE 4th World Forum on Internet of Things, Singapore.
Presentation title: A Real-time and Long-term Scalable IoT-AI Stack for Natural Hazard Resiliency Assessment and Management of Critical Infrastructure.
- Jan. 26, 2018, at the Lands Department, Hong Kong
Presentation title: Automatic Information Extraction from the MMS Images Using AI Techniques.
- Nov. 27, 2017, at the Hong Kong Observatory, Hong Kong
Presentation title: Data Enabled Scalable Research (DESR) Laboratory
- Nov. 15, 2017, at the Development Bureau, Hong Kong
Presentation title: Deep Understanding of Aerial Photos and All Things Visual
- July 20, 2017, at the Lands Department, Hong Kong,
Presentation title: Deep Learning for Aerial Photo Identifications
- July 15, 2017, Knowledge Café at Geotechnical Engineering Office (GEO), Hong Kong.
Presentation title: The HKUST Data-enabled scalable Research (DESR) technology stack: economic real-time disaster resiliency at scale
- July 6th, 2017, at the 8th Graduate Student Summer School and the Lecture Series of Famous Experts and Academicians of Civil Engineering, School of Civil Engineering, Southeast University, China.
Presentation title: Physio-chemical soil behavior and innovative laboratory characterizations.
- June 21, 2017, at Geotechnical Engineering Office (GEO), Hong Kong.
Presentation title: Deep understanding of Aerial Photos and it's use in GIS.
- May 19, 2017, at the Drainage Services Department, Hong Kong
Presentation title: GeoIoT-Cavern: Dynamic information system for proactive, real-time monitoring, inspection, and diagnosis on the cavern safety during the construction and operation periods.

- May 17, 2017, at the Data Enabled Scalable Research (DESR) Laboratory of HKUST.
Present to Ding Chong LTD. Taiwan.
Presentation title: Data Enabled Scalable Research (DESR) Laboratory
- March 24, 2017, at Geotechnical Engineering Office (GEO), Hong Kong
Presentation title: Deeping learning to identify landslide scars through aerial orthophotos.
- Feb. 28, 2017, to Gammon Construction LTD. Hong Kong.
Presentation title: Data Enabled Scalable Research (DESR) Laboratory
- Feb. 28, 2017, at Geotechnical Engineering Office (GEO), Hong Kong.
Presentation title: Data Enabled Scalable Research (DESR) Laboratory
Knowledge share to GEO
- Nov. 26, 2016, invited talk at the workshop on Civil Engineering - Past, Present and Future, Hong Kong (held by NTUAA).
Presentation title:
When Fantasy becomes reality: Applications of 3D printing techniques, MEMs sensors, Internet of Things (IoT), Big data analytics, etc. on instrumentation geotechnics.
- August, 31, 2016, Presentation at Somfy Ltd. Hong Kong.
Presentation title: Bioclimatic Facades – a DESR perspective
- June 20, 2016, at the NSFC-HKUST workshop on sustainable city development, Hong Kong.
Presentation title: Geo-Maker and Geo-IoT (landslide monitoring)
- June 6, 2016, at Joint University-Government Knowledge-sharing Session on Augmenting Liveability in Hong Kong, the Greening, landscape and tree management, Central Government Offices, Hong Kong.
Presentation title: Internet of Trees (IoTs)
- June 16, 2015, at Geotechnical Engineering Office (GEO), Hong Kong.
Presentation title:
 1. Development of an Economical Smart Soil Particle for Natural Slope Instability Monitoring.
 2. A Big Data Architecture and Machine Learning Initiative for Real-Time Landslide Monitoring and Early Warning System in Hong Kong
- Jan. 9, 2015, Invited talk at the Second International Conference on Sustainable Urbanization (ICSU 2015), Hong Kong, China

Presentation title: Landslide Monitoring Using Smart Soil Particle (SSP)

- Sep. 1, 2014, Keynote lecturer at the International Symposium on Geomechanics from Micro to Macro. IS-Cambridge 2014, Cambridge, UK.

Presentation title: Aging, Structuration, and Creep behavior in Sand

- June 13, 2014, at National Taiwan University, Taiwan.

Presentation title: Mechanisms of Aging in Sand

- April 25, 2014, at the HKUST

Presentation title: The HKUST Igniters Pilot Study

- Dec. 12, 2011, at GERC research center of Sinotech Consultants, Inc., Taiwan

Presentation title: Recent Advances at the Lab of Wave-Based Characterizations in the HKUST

- Nov. 11, 2011, Innovation Forum-Innovate, Implement & Improve, HKUST

Presentation title: Geotechnical Engineering Innovations at the HKUST

- Sep. 01, 2011, General reporter at the fifth International Symposium on Deformation Characteristics of Geomaterials (IS-Seoul 2011), Korea.

For the session, Laboratory Methods for Small Strain

- Sep. 01, 2011, Theme lecturer at the fifth International Symposium on Deformation Characteristics of Geomaterials (IS-Seoul 2011), Korea.

Presentation title: Laboratory Methods for Small Strain

- Aug. 30, 2011 at the Dept. of Civil and Environmental Engineering, Korea University, Korea.

Presentation title: Discrete Element Method Simulations of Triaxial Tests & Triaxial Creep Tests

- Feb. 24-26, 2010 at The Dept. of Civil and Environmental Engineering, Yonsei University, Korea.

Short course title: Fundamentals of soil behavior

- May 8, 2006 at National Taiwan University, Taiwan.

Presentation title: Particulate-scale Soil Behavior

- July 16, 2005 in ASCE Civil Engineering Experience Certificate Programme 2005 (CEECP 2005).

Presentation title: Geotechnical Engineering - old-fashioned industry in the 22nd century

- Jan., 2005 at Georgia Institute of Technology, USA.

Presentation title: Structure characteristics and mechanical properties of kaolinite

STUDENT AWARDS

- **LEUNG Shun Cheong:** The best paper in the 2003 ICE paper competition for the Final Year Project (ICE: Institution of Civil Engineering, UK)
- **LEUNG Shun Cheong:** the 1st Runner Up of the Fugro Prize 2005/2006 (a paper competition)
- **LEUNG Shun Cheong:** Honorable mention of the best Master Thesis Award 2004-2006 granted by the ASCE Hong Kong Section.
- **XU Dapeng:** The First prize of the Fugro Prize 2007/2008 (a paper competition)
- **MOK Chit Man:** Honorable mention of the best Master Thesis Award 2006-2008 granted by the ASCE Hong Kong Section.
- **YU Chun Ying:** The First prize of the Fugro Prize 2008/2009.
- **MA Chun Hung:** The 1st Runner Up of the Fugro Prize 2008/2009.
- **OOI Ghee Leng and LAU Yun Man:** Winner of the HKUST President's Cup 2009
Project title: "Examining the Mechanisms of Pile Set-up by the DEM Simulations and a Cost Reduction in the Pile Design"
- **OOI Ghee Leng and LAU Yun Man:** The Third prize of the Challenge Cup, China, 2010.
- **TONG Liwei:** Shortlisted for the Mr. Armin and Mrs. Lillian Kitchell Research Award (Undergraduate Research Opportunities Program, UROP).
- **TONG Liwei:** AECOM prize for 2010-2011 the best engineering students in Hong Kong Universities.
- **TONG Liwei:** Awards of Merit in the 2010 ICE paper competition for the FYPs.
- **NG Ka Hang:** AECOM prize for 2011-2012 the best engineering students in Hong Kong Universities.
- **TAM Pak On:** AECOM prize for 2012-2013 the best engineering students in Hong Kong Universities
- **TAM Pak On:** 2nd Runner-up of the AECOM Prize 2012-2013 for the Best Final-Year Geotechnical Project.
- **SETIASABDA, Ezra Yoanes:** The Gold Award of the HKUST President's Cup 2014.
Project title: The Implementation of Micro-Electro-Mechanical Systems (MEMS) Sensors for Slope Stability Monitoring
- **CHOW Jun Kang,** Semi-Finalists HKUST President's Cup 2014.

Project title: Developing the environmentally friendly transparent soil for practical physical modelling in geotechnical engineering

- **SETIASABDA, Ezra Yoanes:** AECOM prize for 2014-2015 the best engineering students in Hong Kong Universities.
- **YEO, Yee Shien, CHEN, Tianwen, LO, Tsz Cheung, SHANG, Hang, ZHAO, Lucen, JIN Zenan,** Semi-Finalists HKUST President's Cup 2017.

Project title: Predictive Maintenance Using Machine Learning in IoT Era. (co-supervisor: Prof WONG Raymond Chi-Wing / CSE

- **LI, Mengyuan, YIU, Wing Hang, CHOI, Yiu Sing,** Semi-Finalists HKUST President's Cup 2017.

Project title: Realizing City-scale Infrastructure Intelligence via Extensive Dynamic Analysis

- **LI, Meibai:** HKIE Geotechnical Prize - AECOM Prize for Best Student of the Year 2018.
- **LI, Meibai:** HKIE Geotechnical Prize - AECOM Prize for Best Final Year Geotechnical Project 2018 (The 1st Runner Up)

FYP title: Application of S-wave based tomographic imaging system on monitoring the evolution of Vs distribution during the model pile installation process.

- **CHOW Jun Kang:** Winner of the Best Master Thesis Award 2018, ASCE Hong Kong Section.

Thesis title: Application of S-wave based tomographic imaging system on monitoring the evolution of Vs distribution during the model pile installation process.

- **CHOW Jun Kang:** Ringo Yu Prize for Best PhD Thesis in Geotechnical Studies 2019, HKIE, Hong Kong

Thesis title: Applications of revolutionary and transferable technologies in characterizing the soil behaviour during consolidation and health monitoring of the civil infrastructures

COURSE TAUGHT AT HKUST

Undergraduate Courses

- CIVL 270 – Geology for Civil Engineers
- CIVL 272 and CIVL 3720 – Soil Mechanics
- CIVL 3730 – Fundamentals of Geotechnics

Postgraduate Courses

- CIVL 5780 (formerly called CIVL 607C) – Soils and Waves
- CIVL 5710 (formerly called CIVL 571) – Advanced Soil Mechanics

New Courses Developed at HKUST

- CIVL 5780 (formerly called CIVL 607C and CIVL 578) – Soils and Waves

Course Evaluation Statistics

Semester	Course Code	No. of Credits	% of teaching load	Course Evaluation Summary			Instructor Evaluation Summary			Class Size (no. of students)	Response %
				Instr	Dept	Univ	Instr	Dept	Univ		
Fall 01	CIVL 270	3	50	68.8	68.0	66.8	67.2	69.7	70.3	112	59.8
Spring 02	CIVL 272	3	100	80.8	75.4	68.5	81.9	75.5	71.1	59	59.3
Spring 02	CIVL 272	3	100	75.7	75.4	68.5	81.9	75.5	71.1	55	56.4
Fall 02	CIVL 607C	3	100	79.1	74.9	67.8	84.5	76.2	70.8	23	91.3
Fall 02	CIVL 270	3	50	69.8	74.9	67.8	70.3	76.2	70.8	111	51.4
Fall 03	CIVL 607C	3	100	78.2	73.9	68.3	90.4	75.6	71.1	16	56.3
Spring 04	CIVL 272	3	100	77.0	74.5	68.8	79.8	74.7	71.2	111	32.4
Fall 04	CIVL 270	3	50	73.3	71.6	68.1	71.4	73.8	70.9	111	63.1
Fall 04	CIVL 578	3	100	80.0	71.6	68.1	80.9	73.8	70.9	17	88.2
Spring 05	CIVL 272	3	100	68.7	73.3	67.6	69.5	75.7	70.3	108	55.6
Fall 05	CIVL 571	3	100	88.4	76.3	69.7	91.0	78.5	72.8	17	76.5
Spring 06	CIVL 272	3	100	76.2	75.7	69.1	75.7	76.9	71.9	104	62.5
Spring 07	CIVL 272	3	100	82.0	74.2	71.1	80.9	75.8	72.9	92	27.2
Fall 07	CIVL 270	3	50	71.7	70.1	71.1	75.6	71.2	73.3	101	39.6
Fall 07	CIVL 571	3	100	93.3	70.1	71.1	95.6	71.2	73.3	8	62.5
Semester	Course Code	No. of Credits	% of teaching load	Course Evaluation Overall			Instructor Evaluation Overall			Class Size (no. of students)	Response %
				Instr	Dept	School	Instr	Dept	School		
Spring 08	CIVL 272	3	100	82.3	75.4	74.7	86.6	76.7	76.6	113	27.4
Fall 08	CIVL 578	3	100	91.7	73.2	69.7	91.7	77.1	73.9	13	92.3
Spring 09	CIVL 272	3	100	77.3	70.5	71.0	84.3	72.9	74.7	130	33.1
Fall, 09	CIVL 571	3	100	100.0	76.4	69.2	100.0	80.8	74.4	14	64.3
Spring, 10	CIVL 272	3	100	77.6	72.9	69.4	84.9	76.6	73.9	118	32.2
Fall, 10	CIVL 578	3	100	96.4	73.1	69.4	96.4	76.7	74.2	21	66.7
Spring, 11	CIVL 272	3	100	83.1	73.7	70.9	85.6	76.5	74.4	114	35.1

Fall, 11	CIVL 5710	3	100	94.4	74.4	71.6	94.4	78.3	77	13	69.2
Spring, 12	CIVL 3720	3	100	83.1	72.6	72.6	91.3	76	76.6	129	31
Fall, 12	CIVL 5780	3	100	90.6	73.0	71.1	93.8	76.4	76.8	27	59.3
Spring, 13	CIVL 3720	3	100	81.6	71.7	71.9	87.8	73.9	76.1	133	36.8
Fall, 13	CIVL 5710	3	100	96.1	74.8	74	97.4	78.5	78.6	23	82.6
Spring, 14	CIVL 3720	3	100	81.4	75.5	75	87.1	78	79.4	130	26.9
Fall, 14	CIVL 3730	3	100	76.7	74.8	74.3	79.2	76.9	78.3	137	21.9
Fall, 14	CIVL 5780	3	100	100	74.8	74.3	100	76.9	78.3	17	88.2
Fall, 15	CIVL 3730	3	100	78.2	72.7	74.4	87.8	74.5	77.7	160	19.4
Fall, 15	CIVL 5710	3	100	96.4	72.7	74.4	100	74.5	77.7	9	77.8
Fall, 16	CIVL 3730	3	100	83.1	72.7	74.4	89	74.5	77.7	165	37
Fall, 16	CIVL 5780	3	100	90	77.2	74.9	95	79.9	79.3	12	83.3
Fall, 17	CIVL 3730	3	100	74.5	73.6	75.1	84.8	77.1	79.68	142	36.9
Fall, 17	CIVL 5710	3	100	94.6	73.6	75.1	94.6	77.1	79.68	21	71.4
Fall, 18	CIVL 3730	3	100	72	75.7	76.3	78	80.4	80.7	165	35.2
Fall, 19	CIVL 3730	3	100	78.05	78.7	78.84	84.76	81.92	82.25	16	35.2
Fall, 19	CIVL 5710	3	100	90.91	78.7	78.84	93.18	81.92	82.25	12	84.6
Fall, 20	CIVL 3730	3	100	3.85	4.02	4.08	4.13	4.12	4.22	169	27.2
Fall, 20	CIVL 5780	3	100	4.0	4.02	4.08	4.5	4.12	4.22	6	66.67

Instr: instructor; Dept: department; Univ: University; School: School of Engineering

STUDENT SUPERVISED

Ph. D. students

XU Hao (Sep., 2021– July, 2024 (expected))

Tentative Thesis title:

“Human-AI-robot symbiotic solution for smart and resilient cities ”

CHAU Wai Yi (Sep., 2020– July, 2023 (expected))

Tentative Thesis title:

“Applications of AI on tree monitoring”

WU Jimmy (Sep., 2016 – Dec., 2021(expected))

Tentative Thesis title:

“Defect detections of sewage pipes using unsupervised learning techniques.

LAU Yun Man (Sep., 2016 – Dec., 2021 (expected))

Tentative thesis title:

“Slope health monitoring using GNSS/INS integration”

TAN Pin Siang (Sep., 2015 – Dec., 2021 (expected))

Tentative thesis title:

“IoT and big data architecture for large-scale and high-resolution geotechnical monitoring”

MAO Xin (Sep., 2018 – July, 2021 (completed))

Thesis title:

“Expert knowledge guided deep learning for bird watching and drainage network extraction.”

SU Zhaoyu (Sep., 2016 – Aug., 2021(completed))

Thesis title:

“Advanced 2D and 3D computer vision for a smarter city - from image to point cloud”

CHOW Jun Kang (Sep., 2016 – Aug., 2019)

Thesis title:

“Applications of revolutionary and transferable technologies in characterizing the soil behaviour during consolidation and health monitoring of the civil infrastructures”

WU Yuxin (Sep., 2014 – Aug., 2018)

Tentative thesis title:

“Design and application of electrical resistivity and mechanical wave-based measurement systems for process monitoring”

LI Zhaofeng (Sep., 2013 – Aug., 2017)

Thesis title:

“Validations and applications of the Discrete Element Method”

YUAN Quan (Sep., 2010 – Jan., 2016 (completed))

Thesis title:

“Experimental characterizations of structural kinematics at micro- and meso- scales in a 2D rod assembly subjected to shearing”

WANG Yiqiang (Sep., 2008 – Aug. 2015 (completed))

Thesis title:

“Examining the initiation mechanisms of flow landslides using FEM numerical simulations”

ZHANG Zitao (Sep., 2011 – May, 2015(completed))

Tentative Thesis title:

“Experimental characterizations and DEM simulations of pile installation and pile setup in sand”

NIU Qifei (Sep., 2010 – Jan., 2014 (completed))

Thesis title:

“Electrical resistivity method in hydrogeophysical surveys: theory, inversion and modelling”

GAO Yan (Sep., 2008 – Aug., 2012 (completed))

Thesis title:

“Experimental characterizations and DEM simulations of aging, creep and structuration in sand”

DONG Xiaobo (Sep., 2002 – Aug., 2006 (completed))

Thesis title:

“Characterization of soil behavior using electromagnetic wave-based technique”

M. Phil. Students

TAN Tun Jian (Sep. 2018 – July, 2022 (expected))

Thesis title:

“Applications of AI on street pollution watch”

CHAU Wai Yi (Sep., 2018 – July, 2020 (completed))

Thesis title:

“Examining the Tree Failure Process from the Biomechanics Point of View Using the Innovative Tree Monitoring System, Internet of Tree Things (IoTT)”

LUI Kuan-Fu (Sep., 2018 – July, 2020 (completed)); (Technology Leadership and Entrepreneurship program)

Thesis title:

“Mobile Vision System for Automatic Building Defects Detection”

YIU Wing Hang (Sep., 2017 – July, 2019 (completed))

Tentative Thesis title:

“Slope health monitoring using the HVSR technique with case studies in Taiwan”

LUI Hoi Lun (Sep., 2017 – July, 2019 (completed)); (Technology Leadership and Entrepreneurship program)

Tentative Thesis title:

“Scalable regional wireless sensor network for long-term monitoring and detection of hazards in physical infrastructures with an example in arboriculture”

CHOW Jun Kang (Sep., 2014 – July, 2016 (completed))

Thesis title:

“Microstructural characterizations of clay samples during 1-D consolidation – A pragmatic Guide featuring a 3D printed oedometer and an exemplification.”

TAN Pin Siang (Sep., 2013 – Aug., 2015 (completed))

Thesis title:

“Geotechnical scalable architecture for in-time landslide warning and monitoring”

Sumit JAIN (Sep., 2013 – Aug., 2015 (completed))

Thesis title:

“Development of novel and economical sensing techniques to measure suction and volume change in unsaturated soils”

ZHAO Kairan (Sep., 2011 – Aug., 2013(completed))

Thesis title:

“Monitoring water content changes in the vadose zone using the capacitively-coupled resistivity measurement”

TONG Liwei (Sep., 2010 – May, 2012(completed))

Thesis title:

“DEM simulations of energy dissipation in sand and dynamic properties”

OOI Ghee Leng (Sep., 2009 – Aug., 2012 (completed))

Thesis title:

“Exploratory study on initiation mechanism of flow landslide in loose soil”

LAU Yun Man (Sep., 2009 – Aug., 2011(completed))

Tentative Thesis title:

“DEM simulations of triaxial and triaxial creep tests”

MOK Chit Man (Sep., 2005 –Aug., 2007 (completed))

Thesis title:

“An investigation of strain localization in cemented sands and mechanisms of stiffness anisotropy using the DEM simulations”

TSUI King Yuen (Sep. 2005 – Aug. 2007 (completed))

Tentative thesis title:

“Experimental Characterizations of the Dynamic Property Changes in Aged sands”

MA Chun Hung (Sep. 2005 – Sep. 2007 (completed))

Thesis title:

“Signatures of acoustic emission and bond breakages in cemented sand”

YU Chun Ying (Sep. 2005 – Sep. 2007 (completed))

Thesis title:

“Structure effects on the mechanical responses of kaolinite and pore-size evolution at different states”

LEUNG Shun Cheong (Sep., 2003 – Aug., 2005 (completed))

Thesis title:

“The mechanical characteristics of cemented sand: particulate scale study”

LO Kai Fung (Sep., 2003 – Aug., 2005 (completed))

Thesis title:

“Small-strain shear modulus and damping ratio determination by bender element”

XU Dapeng (Sep., 2003 – Dec., 2005 (completed))

Thesis title:

“Time effects on soil behavior: a particulate-scale study on the mechanisms of secondary consolidation and ageing”

SIU Wai Kwan (Sep., 2002 – Aug., 2004 (complete))

Thesis title:

“Effects of soil structure on the mechanical properties of kaolinite clay”

Undergraduate Students for the Final Year Projects (FYPs)

Year	Student Name	Project Title
2003	LEUNG Shun Cheong	<ul style="list-style-type: none"> The mechanical characteristics of cemented sands – numerical simulations.
2003	IP Man Chiu	<ul style="list-style-type: none"> Revisit consolidation behavior of clays - a microscale study.
2003	LO Hoi Shui	<ul style="list-style-type: none"> Behavior of particulate media - experimental observations and numerical simulations.
2003	LO Kai Fung	<ul style="list-style-type: none"> Thixotropy in unsaturated soils.
2003	MAN Ka Chai & WONG Wai Chung	<ul style="list-style-type: none"> Fabric and frequency effects on the dynamic properties of clays.
2004	IP Pui Ching	<ul style="list-style-type: none"> The mechanical characteristics of cemented sands – experimental studies.
2004	HO Mei Yung	<ul style="list-style-type: none"> Bio-imitations in Geotechnical Engineering.
2004	CHOI Ching Man	<ul style="list-style-type: none"> Revisit the DLVO theory and its applications in interpreting soil behavior.
2004	TANG Wai Chun & CHEUNG Yiu Tung	<ul style="list-style-type: none"> Characterizations of soil's water content by electromagnetic wave-based techniques.
2005	TSUI King Yuen	<ul style="list-style-type: none"> Weathering degrees and electromagnetic properties of volcanics.
2005	MA Chun Hung	<ul style="list-style-type: none"> Contact creep and associated aging phenomena of soils.
2005	MOK Chit Man Benjamin	<ul style="list-style-type: none"> An in-depth study on the determination of shear wave arrival time while using bender elements.
2005	YU Chun Ying	<ul style="list-style-type: none"> Dual porosity and secondary consolidation.
2005	NG Chi Ho	<ul style="list-style-type: none"> Characterizations of the local void-ratio distribution in soils by the aid of an EM-wave-based technique.
2006	KONG Kwai Ching	<ul style="list-style-type: none"> Characterizing the stiffness behavior of soil using a true-triaxial apparatus.
2006	LI Siu Cheong	<ul style="list-style-type: none"> Percolation and mechanical behavior of soil.
2006	NGAI Cheuk Hang	<ul style="list-style-type: none"> Signatures of acoustic emission and bond breakages in cemented sand.
2006	SUEN Kowk Yu	<ul style="list-style-type: none"> The structural characteristics and engineering properties

Year	Student Name	Project Title
		of kaolinite soil.
2006	YIP Chun Keung	<ul style="list-style-type: none"> • Cementation effects on the small-strain dynamic properties of soil.
2007	HO Chun Yuen	<ul style="list-style-type: none"> • Stiffness anisotropy in sands.
2007	YEUNG Sui Chung	<ul style="list-style-type: none"> • Characterizing the structure evolution of cemented sand using acoustic emission.
2007	CHIU Chin Yeung	<ul style="list-style-type: none"> • Time effects on the dynamic properties of sands.
2007	WONG Kin Shing	<ul style="list-style-type: none"> • Alterations of clay behavior due to changes in the pore-fluid properties.
2008	CHU Sin Ming	<ul style="list-style-type: none"> • An exploratory study on strain localization using DEM simulations.
2008	HUEN Ming Hei Edmund TANG Chin Yuen	<ul style="list-style-type: none"> • Contact characteristics and the evolution of dynamic properties in aged soils
2008	YAN Hao	<ul style="list-style-type: none"> • An experimental investigation on the behavior of aged sand
2009	CHO Chi Chiu	<ul style="list-style-type: none"> • The role of rainfall on landslide initiation and failure modes
2009	YEUNG Chun Kit	<ul style="list-style-type: none"> • Experimental investigations on the aging-induced stiffness anisotropy in sands
2009	CHUNG Wai Kit	<ul style="list-style-type: none"> • An exploratory study of the fines influences on soil behavior using the DEM simulations.
2009	LAU Yun Man OOI Ghee Leng	<ul style="list-style-type: none"> • Three-dimensional DEM simulations on pile installation and the development of pile setup
2010	CHOI Ching Wun	<ul style="list-style-type: none"> • Landslip warning system in Hong Kong – reviews and proposed future developments
2010	KAM Chun Ho	<ul style="list-style-type: none"> • Influences of fines contents and creep on the stiffness anisotropy in sand
2010	TSANG Ho Yin	
2010	LEE Chun Ho	<ul style="list-style-type: none"> • An exploratory study on the applications of miniature sensors in monitoring landslide motion
2010	LEE Man Wah	

Year	Student Name	Project Title
2010	LUI Chun Fung	<ul style="list-style-type: none"> The role of rolling resistance in DEM simulations on mechanical responses of soils
2010	TONG Liwei	<ul style="list-style-type: none"> An exploratory study on the energy dissipation in soils using DEM simulations
2011	CHAN Chun Pong NG Ka Hang ZHAO Kairan	<ul style="list-style-type: none"> Resistivity mapping using the capacitive line electrode method
2011	TSANG Wing Yin	<ul style="list-style-type: none"> Examining the influence of rainfall intensity on landslide failure modes and the application of MEMS sensors in monitoring slope movement.
2011	CHAN Ka Ho	<ul style="list-style-type: none"> Applications of new types of sensors in monitoring the movement and failure of laboratory slopes
2011	WONG Hiu Kam	<ul style="list-style-type: none"> Examining the structuration phenomena in sand
2012	LI Wu	<ul style="list-style-type: none"> The applications of time-lapse resistivity mapping on geotechnical engineering
2012	NG Yu Hang	
2012	TAM Pak On	<ul style="list-style-type: none"> Micro-scale investigation on kinematic behaviour of particulate medium in response to shearing
2012	YIP Tsz Chung	<ul style="list-style-type: none"> Examining the landslide process using instrumented water flume
2012	LI Ngan Fei	<ul style="list-style-type: none"> Monitoring the change of state of stress during pile installation using tomography images
2013	PANG Tat Chuen	<ul style="list-style-type: none"> Examining the mechanisms of pile setup using new sensing technology in calibration chamber tests
2013	CHOW Sau Yeung HUNG Kwan Yat	<ul style="list-style-type: none"> Examining the initiation mechanisms of flow-like landslides using well-instrumented laboratory water flume tests
2013	LAW Sing LEUNG, Chi Hang Samuel	<ul style="list-style-type: none"> Seasonal water content variations in slopes inferred from resistivity measurements
2014	TSOI, Tsz Wai	<ul style="list-style-type: none"> Experimental characterizations of pile setup in sand
2014	CHONG, Wai Ho	<ul style="list-style-type: none"> The use of resistivity method in the study of landfill

Year	Student Name	Project Title
		covers
2014	SETIASABDA, Ezra Yoanes CHOW, Chi Yuen	<ul style="list-style-type: none"> The effects of groundwater inflow to the initiation process of fluidized landslides
2014	CHAU, Man Kit LEE, Ka Hin	<ul style="list-style-type: none"> Experimental examinations on kinematic behavior of particulate medium in response to biaxial shearing
2015	MA, Tsz Kit	<ul style="list-style-type: none"> DEM simulations and experimental examinations on the kinematic behavior of soil contacts in response to biaxial shearing
2015	KIM, Jungsun	<ul style="list-style-type: none"> The application of time-lapse resistivity mapping on landfill cover
2015	YUNG, Tak Kan CHAU, Wai Yi	<ul style="list-style-type: none"> Using the smart soil particle for slope stability monitoring
2015	NG, Cheuk Him	<ul style="list-style-type: none"> Considering the effects of pile setup in the engineering design
2016	CHEUNG, Ying Shan NG, Chi Kei	<ul style="list-style-type: none"> Building a shear wave-based tomographic imaging system and its applications on geotechnical engineering
2016	FAN, Tze Long NG, Chi Ho	<ul style="list-style-type: none"> Examining the fabric evolution of clay in response to 1-D consolidation
2016	NG, Ka Yiu YUEN, Chi Fai	<ul style="list-style-type: none"> Building a low-cost, large-scale and real-time landslide monitoring and early warning system
2016	YIM, Wing Kin	<ul style="list-style-type: none"> Modelling the stress-strain response by the aid of Artificial Neural Networks (ANN) – a numerical study using the DEM simulations
2017	YAU Chun Yan YEUNG Chin Fung	<ul style="list-style-type: none"> Innovations in 1-D consolidation tests and parameter determinations with the aid of 3D printing and advanced sensing techniques
2017	LI Mengyuan YIU Wing Hang CHOI Yiu Sin	<ul style="list-style-type: none"> Realizing city-scale infrastructure intelligence via extensive dynamic analyses – an example on slope health monitoring
2017	HO Po Chuen	<ul style="list-style-type: none"> Artificial Neural Network Model for predicting soil

Year	Student Name	Project Title
		properties based on the stress-strain relationships
2017	TAM Ka Chun	<ul style="list-style-type: none"> Using an automated S-wave tomography imaging reconstruction system to characterize the evolution of soil stiffness during model pile installation
2018	LEUNG Chun Wing LO Shing Nam	<ul style="list-style-type: none"> IoT-based monitoring and control system for civil engineering
2018	LI Ka Hing LI Meibai	<ul style="list-style-type: none"> Application of S-wave based tomographic imaging system on monitoring the evolution of Vs distribution during the model pile installation process
2018	LEE Man Fung	<ul style="list-style-type: none"> Classification and identifications of clay fabric on SEM images using deep learning
2018	LEE Chun Yee	<ul style="list-style-type: none"> Landslide identifications and classifications using deep learning
2019	CHAN, Chung Long CHOW, Hiu Fung	<ul style="list-style-type: none"> Real-time Big-Data Artificial Intelligence-Based Environmental Impact Assessment – a Study on the Spatial and Temporal Distribution of Egrets
2019	SHUM, Wang Yin LEUNG, Chi Kan	<ul style="list-style-type: none"> Automatic health monitoring of structural concretes of wastewater treatment plant using the deep learning technique
2019	LAI, Tin Yat WONG, Nok Kan	<ul style="list-style-type: none"> Internet of Trees for Risk Monitoring and Management of Urban Trees
2020	CHAN Chun Fung Summit CHENG Sze Yu	<ul style="list-style-type: none"> Internet of Trees Things for urban forestry
2020	KWOK Yung Yi TSE Pik Ling	<ul style="list-style-type: none"> Anomaly detection on concrete structure defects with unsupervised deep learning models
2020	LI Cheuk Fung	<ul style="list-style-type: none"> AIBIM: AI-enabled asset management with BIM
2020	LEE, Zi Cong	<ul style="list-style-type: none"> Innovative slope monitoring with hybrid sensing by GPS and 3-axis accelerometer.
2021	CHOW, King Shun WONG, Ching Man	<ul style="list-style-type: none"> Internet of tree things - examining tree stability from biomechanics point of view
2021	WONG, Sze Ki	<ul style="list-style-type: none"> Estimation of street air pollution source with artificial

Year	Student Name	Project Title
	CHEUNG, Man Tim	intelligence
2021	WONG, Po Chu CHAN, Ka Hei	<ul style="list-style-type: none"> Deep learning-based semantic segmentation of concrete defects from images.
2021	Wu, Wai Yin Gavin	<ul style="list-style-type: none"> Intelligent Vehicle identification using LIDAR sensing and Deep Learnin

Undergraduate Research Opportunities Program (UROP)

Year	Student Name	Project Title
2008 (Summer)	OOI, Ghee Leng	<ul style="list-style-type: none"> DEM simulations of fines influences on the small-strain stiffness of soil
2009 (summer)	TONG, Liwei	<ul style="list-style-type: none"> An exploratory study on energy dissipation in soils during biaxial loading using discrete element method simulations
2009 (summer)	LUI, Chun Fung	<ul style="list-style-type: none"> An exploratory study on the role of rolling resistance on the mechanical responses of soils using discrete element method simulations
2009 (summer)	WONG, Chi Sun WONG, Tik Wai	<ul style="list-style-type: none"> Applications for miniature sensors in geotechnical engineering
2010 (summer)	ZHAO, Kairan LUI, Chun Fung	<ul style="list-style-type: none"> DEM simulations on soil dilatancy
2010 (summer)	TSANG, Wing Yin	<ul style="list-style-type: none"> An investigation on the correlation between the rainfall intensity and different modes of landslides
2011 (summer)	LI, Ngan Fei	<ul style="list-style-type: none"> Set-up effect of displacement pile in sand
2011 (summer)	LI, Wu	<ul style="list-style-type: none"> The application of time-lapse resistivity mapping: soil resistivity changes with water content
2011 (summer)	TAM, Pak On	<ul style="list-style-type: none"> DEM simulations on biaxial tests of dense and loose Sand
2012 (summer)	LI, Xiaoya TAN, Pin Siang	<ul style="list-style-type: none"> The development of new types of sensors, GeoMEMS, for Geotechnical Engineering applications
2012 (summer)	CHEN, Yue	<ul style="list-style-type: none"> Experimental examinations on soil dilatancy
2013 (Spring)	TAN, Pin Siang	<ul style="list-style-type: none"> Development of GeoMEMS sensors for Geotechnical Engineering applications
2013- 2014	LOONG, Cheng Ning	<ul style="list-style-type: none"> The development of a new type of sensor, Smart Soil Particle, for slope stability monitoring
2013 (Fall)	LUI, Hoi Lun	<ul style="list-style-type: none"> The development of a new type of sensor, Smart Soil Particle, for slope stability monitoring
2013	KIM, Jungsun	<ul style="list-style-type: none"> The applications of time-lapse resistivity mapping on

Year	Student Name	Project Title
(Fall)		Green Slopes
2012-2014	CHOW, Jun Kang	<ul style="list-style-type: none"> The exploratory study on the applications of transparent soils.
2015 (Spring)	WONG Yan Yan Annie	<ul style="list-style-type: none"> Applications of environmental-friendly transparent soils in geotechnical engineering
2015 (summer)	LI, Mengyuan HE, Zhou HO, Chun Tak MAK, King Yin Calvin	<ul style="list-style-type: none"> A big data architecture and machine learning initiative for real-time landslide monitoring and early warning system
2015 (Fall)	HO, Chun Tak	<ul style="list-style-type: none"> A big data architecture and machine learning initiative for real-time landslide monitoring and early warning system
2016 (Spring)	LI, Mengyuan	<ul style="list-style-type: none"> A big data architecture and machine learning initiative for real-time landslide monitoring and early warning system
2017 (Spring)	WONG, Wen Yan CHANG, Bing An	<ul style="list-style-type: none"> A Big Data Landslide Early Warning System with Apache Spark and Scala
2017 (Summer)	SUN, Ji	<ul style="list-style-type: none"> A Big Data Landslide Early Warning System with Apache Spark and Scala
2017 (Summer)	CHAUDHRY Mukund	<ul style="list-style-type: none"> Advanced Landslide identifications, classifications, and prevention in Hong Kong using Deep Learning
2017 (Summer)	TAN Tun Jian	<ul style="list-style-type: none"> Designing reliable, scalable software systems for Internet of Things (IoT)
2017 (Fall)	SUN, Ji WONG, Wen Yan CHANG, Bing An	<ul style="list-style-type: none"> A Big Data Landslide Early Warning System with Apache Spark and Scala
2017 (Fall)	CHAUDHRY Mukund YIU, Ka Yan	<ul style="list-style-type: none"> Advanced Landslide identifications, classifications, and prevention in Hong Kong using Deep Learning

Year	Student Name	Project Title
2017 (Fall)	TAN Tun Jian	<ul style="list-style-type: none"> Designing reliable, scalable software systems for Internet of Things (IoT)
2018 (Summer)	LIU Chengzhong	<ul style="list-style-type: none"> A Big Data Landslide Early Warning System with Apache Spark and Scala
2018 (Summer)	CHENG Log G	<ul style="list-style-type: none"> Advanced Landslide identifications, classifications, and prevention in Hong Kong using Deep Learning
2018 (Summer)	WEI Huan-ting	<ul style="list-style-type: none"> DESR (Data-Enabled Scalable Research) Lab – Incubator of Creative Learners and Hub of Transformation
2018 (Fall)	CHENG Log G	<ul style="list-style-type: none"> Advanced Landslide identifications, classifications, and prevention in Hong Kong using Deep Learning
2018 (Fall)	UY Mark Christopher Siy LIU Yuebin LEW San Yik	<ul style="list-style-type: none"> DESR (Data-Enabled Scalable Research) Lab – Incubator of Creative Learners and Hub of Transformation
2019 (Spring)	YAP Zhi Yun	<ul style="list-style-type: none"> DESR (Data-Enabled Scalable Research) Lab – Incubator of Creative Learners and Hub of Transformation
2019 (Spring)	CHOW, King Shun WONG, Ching Man	<ul style="list-style-type: none"> Internet of tree things - examining tree stability from biomechanics point of view
2019 (Spring)	WONG, Sze Ki CHEUNG, Man Tim	<ul style="list-style-type: none"> Estimation of street air pollution source with artificial intelligence
2019 (Spring)	WONG, Po Chu CHAN, Ka Hei	<ul style="list-style-type: none"> Deep learning-based semantic segmentation of concrete defects from images.
2019 (Spring)	Wu, Wai Yin Gavin	<ul style="list-style-type: none"> Intelligent Vehicle identification using LIDAR sensing and Deep Learning

SERVICES

Professional Services

- Member of the local organizing committee, the International Conference on the Centrifuge Modeling, Hong Kong, December, 2001.
- Session chair, Annual Conference of Hong Kong Society of Theoretical and Applied Mechanics and the 1st Jiangsu-Hong Kong Forum on Mechanics and Its Applications, March, 2005.
- Session chair, Annual Conference of Hong Kong Society of Theoretical and Applied Mechanics and the 2nd Jiangsu-Hong Kong Forum on Mechanics and Its Applications, March, 2006.
- Member of the local organizing committee, International Symposium on Advances in Laboratory Testing of Geomaterials, Hong Kong, June, 2006.
- Member of the local organizing committee, treasurer, and proceeding editor, the International Conference on Physical Modeling in Geotechnics, Hong Kong, August, 2006.
- Session chair, the International Symposium on Geomechanics and Geotechnics of Particulate Media, IS-Yamaguchi 06, Ube, Japan, September, 2006.
- Member of the local organizing committee and session chair, International Workshop on Constitutive Modelling – Development, Implementation, Evaluation, and Application, Hong Kong, January, 2007.
- Session chair, Annual Conference of Hong Kong Society of Theoretical and Applied Mechanics and the 3rd Jiangsu-Hong Kong Forum on Mechanics and Its Applications, March, 2007.
- Member of international advisory committee, the 3rd International Conference on Site Characterization, ISC'3, Taiwan, April, 2008.
- Session chair, The 4th decennial Geotechnical Earthquake Engineering and Soil Dynamics Conference, Sacramento, USA, May 18-22, 2008.
- Member of International academic committee, International Symposium on Geomechanics and Geotechnics: From Micro to Macro (IS-Shanghai 2010), 10-12 Oct, 2010, Shanghai, China.
- Member of the local organizing committee and session chair, the 14th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering, Hong Kong, May, 2011.
- Session chair, The 2012 International Conference on Geomechanics and Engineering (ICGE'12), August 26-29, 2012, Seoul, Korea.

- Member of the local organizing committee, Experimental Micromechanics for Geomaterials Joint workshop of the ISSMGE TC101 and TC105, Hong Kong, May 2013.
- Reviewed a book proposal on signal processing (John Wiley & Sons).
- Reviewed papers for the following journals:
 - Canadian Geotechnical Journal
 - Journal of Geotechnical and Geoenvironmental Engineering, ASCE
 - ASTM Geotechnical Testing Journal.
 - Géotechnique
 - Géotechnique Letters
 - Journal of Environmental & Engineering Geophysics.
 - The KSCE Journal of Civil Engineering
 - Soils and Foundations
 - Acta Geotechnica
 - Journal of Applied Geophysics
 - Engineering Geology
 - Computers and Geotechnics
 - Granular Matters
 - Geomechanics and Geoengineering: An International Journal
 - International Journal of Geomechanics
 - Electroanalysis
 - Soil Dynamics and Earthquake Engineering Vibration
 - Earthquake Engineering
 - Journal of GeoEngineering
 - Landslides
- Reviewed papers for the following conferences
 - Experimental Micromechanics for Geomaterials Joint workshop of the ISSMGE TC101 and TC105.
 - Experimental Micromechanics for Geomaterials Joint workshop of the ISSMGE TC101 and TC105, Hong Kong, May 2013.
 - GeoShanghai International Conference, Shanghai, China, June 2-4, 2006.
 - Geo-Frontier 2005, Austin, Texas, January 24-26, 2005.
 - The International Conference on Physical Modelling, Hong Kong, August 4-6, 2006.

- International Workshop on Constitutive Modelling – Development, Implementation, Evaluation, and Application, Hong Kong, January 13-14, 2007.
- The 4th decennial Geotechnical Earthquake Engineering and Soil Dynamics Conference, Sacramento, USA, May 18-22, 2008.
- International Symposium on Geomechanics and Geotechnics: From Micro to Macro (IS-Shanghai 2010), 10-12 Oct, 2010, Shanghai, China.
- The 14th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering, Hong Kong, May, 2011.
- IS-Seoul 2011, the fifth International Symposium on Deformation Characteristics of Geomaterials, taking place in Seoul, Republic of Korea, August 31 - September 3, 2011.
- 7th International Symposium on Deformation Characteristics of Geomaterials
- Organized technical visits and CPD courses on behalf of the National Taiwan University Alumni Association (Civil and Geology) in Hong Kong (NTUAA).
 - A Case Study - Project Management for the Tsuen Wan Reclamation Project, held at City U on 07/06/2003
 - Recent Tunneling Research & Development in Singapore and Hong Kong, held at HKUST on 08/03/2003.
 - Tendering for Civil Engineering Works, held at City U. on 15/11/2003.
 - Soil Remediation Technologies, held at City U. on 14/08/2004 and 21/08/2004.
 - Technical visit: Route 8 Ngong Shuen Chau Viaduct (25/06/2005).
 - Recent Developments in Slope Engineering – Quality Control, Safety Monitoring and Innovative Construction Materials, held at HKUST on 24/09/05.
 - Visit GCF and WWTF in HKUST, held at HKUST on 22/11/2008.
 - The half day seminar on Natural Terrain Hazards, held at The Hong Kong Polytechnic University, on 27/11/2010.
- Helped organize CPD courses or technical visits on behalf of the AGS (The Association of Geotechnical and Geoenvironmental Specialists (Hong Kong))
 - A Practical Guide to Natural Terrain Hazard Studies - A Practitioners Perspective, held at HKUST on 10/01/2009.
 - The Fundamental Principles and Applications of Centrifuge Modelling in Engineering Practice, held at Mariner's Club, HK, on 28/02/2011.
 - Challenges of Underground Construction in Reclaimed Land, held at HKUST on 13/11/2010.

- Site visit: The Wind/Wave Tunnel Facility and The Geotechnical Centrifuge Facility at the Hong Kong University of Science & Technology, held on 21/08/2010.
- Challenges of Underground Construction in Reclaimed Land, held at HKUST on 13/11/2010.
- Helped organize CPD courses, short courses, annual seminar or technical visits on behalf of the HKIE
 - The HKIE Geotechnical Division 34th Annual Seminar: Challenges and Recent Advances in Geotechnics for Foundation Engineering, held at the Auditorium of the Hong Kong International Trade and Exhibition Centre, Kowloon Bay, Kowloon on 20 May 2014.
 - The HKIE Geotechnical Division 33rd Annual Seminar: Geotechnical Aspects of Housing Supply and Development, held at the Auditorium of the Hong Kong International Trade and Exhibition Centre, Kowloon Bay, Kowloon on 31 May 2013.
 - The HKIE Geotechnical Division 32th Annual Seminar: Geotechnical Aspects of Tunnelling for Infrastructure Development, held at the Auditorium of the Hong Kong International Trade and Exhibition Centre, Kowloon Bay, Kowloon on 25 May 2012.
 - The HKIE Geotechnical Division 31st Annual Seminar: Landslide Risk Reduction through Works – thirty-five years of landslip preventive measures programme and beyond, held at the Auditorium of the Hong Kong International Trade and Exhibition Centre, Kowloon Bay, Kowloon on 20 May 2011.
 - The HKIE Geotechnical Division 30th Annual Seminar “Geotechnical Aspects of Deep Excavation, held at the Hong Kong Convention & Exhibition Centre on 6 May 2010.
 - The half day seminar on Natural Terrain Hazards, held at The Hong Kong Polytechnic University, on 27/11/2010.
 - Workshop on Foundation Engineering, Jointly organized by GE Division, HKU, the PolyU and HKUST, held at Poly U on 27 Feb & 6 Mar 2010.
 - Workshop on Excavation and Lateral Support, Jointly organized by GE Division, HKU, the PolyU and HKUST, held at Poly U on 5 & 12 Jun 2010.
 - Workshop on Foundation Engineering, Jointly organized by GE Division, HKU, the PolyU and HKUST, held at Poly U on 30 April & 7 May 2011.

- Member of the HKIE Geotechnical Division Working Group on Application of Innovative Technology in Geotechnical Engineering (2015-2018).
- Session chair, the 6th International Young Geotechnical Engineers' Conference, Seoul, Korea, Sep., 2017.
- Technical committee and paper reviewer, 7th International Symposium on Deformation Characteristics of Geomaterials, IS-GLASGOW 2019.
- Session chairman and paper reviewers (sensors and sensor systems), 2019 IEEE 5th World Forum on Internet of Things (WF-IoT), Limerick, Ireland

University and Departmental Services

Departmental level

- Member, Teaching and Learning Quality Progress Reviews (TLQPR), Department of Civil and Environmental Engineering, HKUST (2002 – 2003).
- Member, Student Affairs Committee, Department of Civil and Environmental Engineering, HKUST (2002 – 2003).
- Member, Postgraduate Studies Committee, Department of Civil and Environmental Engineering, HKUST (2003 – 2009).
- Member, Undergraduate Studies Committee, Department of Civil and Environmental Engineering, HKUST (2007 – 2013).
- Member, Departmental Disciplinary Committee, Department of Civil and Environmental Engineering, HKUST (2008-2009)
- Acting PG coordinator (March, 2005 – August, 2005)
- Member, Teaching and Learning Quality committee, Department of Civil and Environmental Engineering, HKUST. (2005 - 2010).
- Member, Administrative committee of the MSc program in Civil Infrastructural Engineering and Management (CIEM) (2007-2014).
- Coordinator, Resource committee, Department of Civil and Environmental Engineering, HKUST. (2009 - 2011).
- Member, Executive committee, Department of Civil and Environmental Engineering, HKUST. (2009 - 2015).
- Member, Planning committee, Department of Civil and Environmental Engineering, HKUST. (2011 - 2015).
- Member, Merit review committee, Department of Civil and Environmental Engineering, HKUST. (2011 - 2013).

- Coordinator, Undergraduate Studies Committee, Department of Civil and Environmental Engineering, HKUST (2013 – 2015).
- Member, Teaching-Learning Quality, Department of Civil and Environmental Engineering, HKUST (2015 – present).
- Member, Resource Committee, Department of Civil and Environmental Engineering, HKUST (2015 – present).
- Member, Search and Appointment Committee, Department of Civil and Environmental Engineering, HKUST (2015 – present).
- Member, Teaching Faculty Appointment, Department of Civil and Environmental Engineering, HKUST (2015 – present).
- Member, Promotion and Substantiation Committee, Department of Civil and Environmental Engineering, HKUST (2016 – present).
- Coordinator, Search and Appointment Committee, Department of Civil and Environmental Engineering, HKUST (2017 – present).
- Coordinator, Teaching and Learning Quality Committee (2018 - present)
- Associate Head, Department of Civil and Environmental Engineering, HKUST (2018 – present).

School level

- Member, search committee for the department head of Civil and Environmental Engineering (2014).
- Member, Engineering Research Committee (ERC) (2017-present)
- Coordinator, Engineering Research Committee (ERC) (2018-2019)
- Member, SENG Review Committee for teaching equipment competition (2019-Present)

University level

- Member, the Internal Selection Committee, representing School of Engineering (2008-2010).
- Hall Fellow, Hall V (2012-2017)
- Member, Ad Hoc Search & Appointments Committee (Sustainability Cluster) (2015).
- Committee member, President's Cup of the HKUST (2017- 2018).
- Residence Mater, All PG Halls and JCH (2020- present)

