

# CURRICULUM VITAE

## Hannah, Wan-Huan ZHOU, Professor



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Professor Hannah Wanhuan Zhou currently serves as the Head of the Department of Civil and Environmental Engineering, a core member of the State Key Laboratory of Internet of Things for Smart City at the University of Macau. She obtained her BEng and MSc in Civil Engineering from Zhejiang University, China, and her PhD in Geotechnical Engineering from the Hong Kong Polytechnic University. Prof. Zhou has become a faculty in the University of Macau since 2009.

Prof. Zhou is Vice Chair of TC204 Underground Construction of ISSMGE, Vice Director of the Macau Association for Geotechnical Engineering, and a board member of several international geotechnical organizations and societies. She serves as the Associate Editor of International Journal of Geomechanics and is an editorial board member for multiple international geotechnical engineering journals, including Transportation Geotechnics, Canadian Geotechnical Journal and Biogeotechnics. Prof. Zhou has published over 100 papers in top - tier international journals and conferences, showcasing her strong research capabilities. She has led more than 15 research projects, primarily funded by the National Natural Science Foundation of China and the Science and Technology Development Fund of the Macau SAR. She was awarded Outstanding Youth Science Fund (Hong Kong and Macau) in 2020.

Prof. Zhou's research interests cover disaster prevention in geotechnical engineering and deformation control and optimization of geotechnical structures. Her research findings have been applied in real - world engineering projects, such as the Hong Kong - Zhuhai - Macao Bridge and Macao's East Line Project. Since 2022, she has been listed among the World's Top 2% Scientists in the Civil Engineering discipline on Stanford University's released list (Career), a remarkable recognition of her significant contributions to the field.

## **ACADEMIC BACKGROUND**

- 2008 Ph.D. in Geotechnical Engineering, Department of Civil & Structural Engineering, The Hong Kong Polytechnic University, Hong Kong  
Supervisor: Chair Professor Jian-Hua Yin
- 2005 MSc. in Geotechnical Engineering, Zhejiang University, China  
Supervisor: Prof. Renpeng Chen, Prof. Yunmin Chen
- 2002 B.Eng in Civil Engineering, Zhejiang University, China  
Minor diploma on “High-tech Innovation Management” Chu Kechen Honors College, Zhejiang University

## **WORKING EXPERIENCE**

- 08/2021 ~ Present:       **Professor**  
Faculty of Science and Technology, University of Macau, Macau
- 09/2015 ~ 08/2021:       **Associate Professor**  
Faculty of Science and Technology, University of Macau, Macau
- 09/2009 ~ 08/2015:       **Assistant Professor**  
Faculty of Science and Technology, University of Macau, Macau
- 12/2008 – 06/2009:       **Lecturer**  
Department of Civil and Structural Engineering,  
The Hong Kong Polytechnic University, Hong Kong

## **HONORS AND AWARDS**

- Nov 2024       **First Prize** of Science and Technology Progress Award  
Presented by **China Highway and Transportation Society** for “*Key Technologies for Seepage Simulation of Fractured Rock Mass and Water Hazard Control in Tunnel Engineering*” by Ma Guowei, Xu Zhenhao, **Zhou Wanhuan**, et al.
- Oct 2011       2011 R. M. Quigley Award – Honourable Mention for paper published in Canadian Geotechnical Journal in 2010.  
Presented by **Canadian Geotechnical Society**, for paper entitled “*New mixed boundary, true triaxial loading device for testing three-dimensional stress–strain–strength behaviour of geomaterials*” by Jian-Hua Yin, Chun-Man Cheng, Md. Kumruzzaman, and **Wan-Huan Zhou**.
- May 2011       Award for Excellent Paper 2011 to **Wan-Huan Zhou**  
Presented by **International Association for Computer Methods and Advances in Geomechanics (IACMAG)** for the following paper

published in ASCE “*Influence of Grouting Pressure and Overburden Stress on the Interface Resistance of a Soil Nail*”, Journal of Geotechnical and Geoenvironmental Engineering, ASCE, Vol. 135, No. 9, 2009, by Jian-Hua Yin and **Wan-Huan Zhou**.

## **PROFESSIONAL MEMBERSHIPS**

<b>Vice Chair</b>	<b>Technical Committee 204</b> Underground Construction (ISSMGE)
<b>Vice Director</b>	Macau Association of Geotechnical Engineering ( <b>MAGE</b> )
<b>Member-at-Large</b>	Hong Kong Society of Theoretical and Applied Mechanics ( <b>HKSTAM</b> )
<b>Committee Member</b>	Risk and Insurance Research Branch of China Civil Engineering Society ( <b>CCES</b> )
<b>Nominated Member</b>	11 <sup>th</sup> Committee of Engineering Geology Professional Committee, Geological Society of China
<b>Nominated Member</b>	<b>Technical Committee 202</b> Transportation Geotechnics (ISSMGE)
<b>Nominated Member</b>	<b>Technical Committee 219</b> System Performance of Geotechnical Structures (ISSMGE)
<b>Member</b>	American Society of Civil Engineers ( <b>ASCE</b> ), Geo-Institute
<b>Member</b>	Hong Kong Geotechnical Society ( <b>HKGES</b> )
<b>Member</b>	6 <sup>th</sup> Committee of Chinese Association of Young Scientists and Technologists

## **PROFESSIONAL SERVICES**

Associate Editor	<b>International Journal of Geomechanics</b> , Since 2021
Associate Editor	<b>Frontiers in Built Environment</b> , Since 2021
Editorial Board Member	<b>Canadian Geotechnical Journal</b> , Since 2021
Early Career Editorial Board Members	<b>Transportation Geotechnics</b> , Since 2021
Scientific Editor	<b>Journal of Mountain Science</b> , Since 2020

## **Keynote/Invited Speech**

- Invited Speaker “Fiber Bragg Grating Intelligent Health Monitoring of Island Tunnel Connection Section in Marine Environment”, The 8th National Symposium on Rock and Soil Engineering of Islands and Reefs , Suzhou, China, 11 May 2025.
- Invited Speaker “Innovations for Settlement Prediction of the HZMB immersed Tunnel in the Ocean Environment”, École Polytechnique Fédérale de Lausanne, Lausanne, 27 March 2025.
- Invited Speaker “Application of Bayesian Inference in Geotechnical Engineering”, The 2024 Academic Forum on Sustainable Development in Geotechnical Engineering, Guangdong University of Technology, Guangzhou, 10 November 2024.
- Invited Speaker “Application of Bayesian Inference in Geotechnical Engineering”, Hangzhou City University, Hangzhou, 4 November 2024.
- Invited Speaker “Safety Performance Assessment of Immersed Tunnels under Extreme Load Conditions”, The 5th National Conference on Transportation Geotechnical Engineering, Zhejiang University, Hangzhou, China, 3 November 2024.
- Invited Speaker “Uncertainty Modeling Methods and Digital Progress of Transparent Stratigraphy in Macau”, CHINA ROCK 2024, Shanghai, China, 2 November 2024.
- Invited Speaker “Practice of Bayesian Probability Theory in Geotechnical Engineering”, The 1st International Yuelu Symposium on “Geotechnical and Underground Engineering”, Hunan University, Changsha, China, 18 June 2024.
- Invited Speaker “Long-term deformation prediction and evaluation of deep-buried submarine tunnel”, The 7th national Geotechnical Engineering Symposium on Islands and reefs, SUN YAT-SEN University, Zhuhai, 10-12 May, 2024.
- Keynote Speaker “Physics-informed Machine Learning for Long-term Settlement Prediction of HZMB Immersed Tunnel”, The 27th Annual Conference of HKSTAM 2024/ The 19th Jiangsu – Hong Kong Forum on Mechanics and Its Application, The Hong Kong Polytechnic University, Hong Kong, 4 May, 2024.
- Invited Speaker “Long-term settlement prediction of HZMB immersed tunnel”, Hunan University, Hunan, 19 Apr., 2024.
- Invited Speaker “A flexible and generalizable method for predicting subsea immersed tunnel settlement”, International Symposium on Innovations in Geotechnical Engineering towards Sustainability (IGES2023), The Hong Kong Polytechnic University, Hong Kong, 30 Nov-04 Dec, 2023.

Invited Speaker	Tongji University, Shanghai, China, 9 November 2023.
Keynote Speaker	“Physics-informed machine learning for settlement prediction of immersed tunnels”, 16th International Conference of the International Association for Computer Methods and Advances in Geomechanics, Politecnico di Torino, Italy, September 1, 2022.
Invited Speaker	“Urban Underground Space and Big Data”, UM Scholar Research Forum, University of Macau, Macau, April 22, 2022.
Invited Speaker	“Deformation Analysis of Immersed Tunnel”, The 1 <sup>st</sup> Macao Conference on Smart City Technologies - Towards Smart Guangdong-Hong Kong-Macao Greater Bay Area. University of Macau, Macau. December 13, 2021.
Invited Speaker	“Deformation Analysis of Immersed Tunnel”, International Workshop of Smart Infrastructure Development towards Smart City, China Shantou & Hong Kong. Nov 20, 2021,
Invited Speaker	“Micro to Macro Characteristics of Interface Shearing Behavior between Granular Soil and Structure” Tianjin University, Tianjin, China, October 9, 2020.
Keynote Speaker	“Micro to Macro Characteristics of Interface Shearing Behavior between Granular Soil and Structure”, The 17 <sup>th</sup> Chinese Society for Rock Mechanics and Engineering (CSRME) annual conference, Beijing, China, October 25, 2020.
Invited speaker	“Uncertainty analysis in geotechnical engineering”, the 2 <sup>nd</sup> Zhuhai Civil Engineering forum, Zhuhai, China, November 16, 2019.
Keynote speaker	“Creep model selection for soft soils”, 2 <sup>nd</sup> International Symposium on Marine Engineering Geology, ISMEG2019, Dalian, China, October 19, 2019.
Keynote speaker	“Sand-Structure interface shearing characteristics and multi-scale analysis”, The 1 <sup>st</sup> Academic Conference on Calculation and Simulation Technologies for Civil Engineering, Wuhan, China, May 25, 2019.
Invited speaker	“Silty sand – structure interface shearing behavior”, Changsha, China, November 10, 2018.
Invited speaker	“Engineering properties of Pb contaminated soil after nZVI treatment”, "Beijing-Tianjin-Hebei-Hong Kong, Macao and Taiwan" Energy Green Development and Low-Carbon City Construction Forum, Beijing, China, August 05, 2018.
Keynote speaker	“An efficient probabilistic back-analysis method for braced excavations”, 2nd International Symposium on Asia Urban GeoEngineering (2 <sup>nd</sup> ISAUG), Changsha, China, November 26, 2017.
Invited speaker	“On the interface shearing behavior between granular soil and artificial rough surfaces”, 7 <sup>th</sup> International Symposium on

## **RESEARCH**

### **Recent Research Grants**

1. **Principal Investigator:** “Development and Application of Digital Base of Underground Space in High Density Cities”, Science and Technology Development Fund (FDCT), Macau SAR. Grant No.: 0082/2024/RIB2, Duration:09/05/2025-08/09/2028, Status: Ongoing.
2. **Principal Investigator:** “Research on Mechanism and Prediction of Deeply Buried Coastal Water Tunnels Deterioration and Leakage Based on Multivariate Sensing and Physics-informed Data-driven Approach”, Science and Technology Development Fund (FDCT), Macau SAR. Grant No.: 0014/2024/AFJ, Duration: 31/10/2024-30/10/2027, Status: Ongoing.
3. **UM Principal Investigator:** “Modern numerical methods for high-fidelity simulation of geohazards (MONUGEO)”, EUROPEAN RESEARCH EXECUTIVE AGENCY (REA), European. Grant No.: 0101182721, Duration: 01/01/2025-31/12/2029, Status: Ongoing.
4. **Principal Investigator (UM):**“Settlement modeling of HZMB tunnel based on PIML algorithm under complex loading”, MYRG-GRG2024-00200-FST-UMDF, Duration: 01/01/2025 -31/12/2026, Status: Ongoing.
5. **Principal Investigator:** “Long-term deformation of shield tunnels crossing land-sea transitional zones and development of an intelligent health monitoring platform”, Science and Technology Development Fund (FDCT), Macau SAR. Grant No.: 0056/2023/RIB2, Duration: 16/01/2024-15/01/2027, Status: Ongoing.
6. **Principal Investigator:** “Intelligent safety monitoring and emergency management of major cross-sea traffic cluster projects”, Department of Science and Technology of Guangdong Province. Grant No.: 2019B111106001, Duration: 01/01/2023-31/12/2024, Status: Completed.
7. **Principal Investigator:** “High-performance sensing and monitoring technology and platform for safe operation of urban underground pipelines”, Department of Science and Technology of Guangdong Province. Grant No.: 2022A0505030019, Duration: 01/09/2022-31/08/2025, Status: Ongoing.
8. **Principal Investigator:** “Safety monitoring, Smart IOT technology, Instrument and equipment, and Industrialization for Urban Infrastructure”, University of Macau-Huafa Group Joint Laboratory, Duration: 16/03/2022-15/03/2025, Status: Ongoing.

9. **Principal Investigator:** “Disaster prevention in geotechnical engineering”, 2020 Excellent Young Scientists Fund (Hong Kong and Macao) from NSFC, Grant No. 52022001, Duration: 01/01/2021-31/12/2023, Status: Completed.
10. **Principal Investigator:** “Seepage and Durability of Deep Buried Immersed Tunnel in Marine Backfill and Water Environment”, NSFC-FDCT Joint Project, Project Reference Number: 0026/2020/AFJ, Period: 01/09/2020-31/08/2023, Status: Completed.
11. **Principal Investigator:** “Development of intelligent optical fiber sensors for building safety monitoring”, FDCT Smart City Applications and Solutions of Macao, Project Reference Number: 0025/2020/ASC, Period: 04/01/2021-03/01/2022, Completed.
12. **Principal Investigator (UM):** “Integrated application of intelligent operation and maintenance technology for Hong Kong-Zhuhai-Macao Bridge”, Ministry of Science and Technology (MOST), China. Grant No.: 2019YFB1600700, Duration: 01/12/2019-30/11/2022, Status: Completed.
13. **Principal Investigator (UM):** “Intelligent safety monitoring and emergency management of major cross-sea traffic cluster projects”, Department of Science and Technology of Guangdong Province. Grant No.: 2019B111106001, Duration: 01/2020-12/2022, Status: Completed.
14. **Principal Investigator:** “Research and Development of Advanced Optical Fiber Sensing Technology for Marine Environment”, The Center for Ocean Research in Hong Kong and Macau. Grant No.: CORE, Duration: 01/04/2022-31/03/2023, Status: Completed.
15. **Principal Investigator:** “Study of face stability technology for slurry shield tunneling”, Science and Technology Development Fund (FDCT), Macau SAR. Grant No.: FDCT/0035/2019/A1, Duration: 07/2019-06/2022, Status: Completed.
16. **Principal Investigator:** “Characteristics and micro-mechanism of the shearing behavior between silty sand and 3D complex rough interfaces”, Science and Technology Development Fund (FDCT) of Macau SAR. Grant No.: FDCT/193/2017/A3, Duration: 25/05/2018-24/05/2021, Status: Completed.

### ***Publications:***

#### ***Book***

**Zhou, Wan-Huan, Yin, Zhen-Yu (2022).** Practice of Discrete Element Method in Soil-Structure Interface Modelling. Springer Nature, ISBN: 978-981-19-0046-4, 260 pages.

**Zhou, Wan-Huan, Yin, Zhen-Yu, Yuen Ka-Veng (2021).** Practice of Bayesian Probability Theory in Geotechnical Engineering. Springer Singapore, ISBN: 978-981-15-9104-4, 324 pages.

***Selected Journal papers (Student Name is underlined):***

1. Jing, J.H., **Zhou, W. H.** (2025). Advanced optical fiber sensors for measuring seawater salinity and pressure. 29th International Conference on Optical Fiber Sensors, 1129-1132.
2. He, S. Y. , Tang, C. , Pan, M. , & **Zhou, W. H.** (2025). Settlement-based triple factor framework for long-term safety assessment of immersed tunnel [J]. Tunnelling and Underground Space Technology, 2025, 162, 106597. DOI:10.1016/j.tust.2025.106597.
3. Li, X., **Zhou, W. H.**, Liu, J., & Wang, C. (2025). Elastic-plastic response and particle breakage in marine coral sand: Roles of fines and density state. *Ocean Engineering*, 323, 120499.
4. Li, Y., Ding, C., Yu, H. L., Zhou, W. H., Peng, S. G. (2025). Quantitative evaluation of life loss induced by embankment failure with the impact of riverbed deformation. *International Journal of Disaster Risk Reduction*, 120, 105390.
5. Yan, W., Yang, C. Y., Shen, P., **Zhou, W. H.** (2025). Efficient probabilistic tuning of large geological model (LGM) for underground digital twin. *Engineering Geology*, 350, 107996.
6. Yan, W., Yi, S. Y., Huang, T. S., Zou, J., Zhou, W. H., Shen, P. (2025). Geophysics-informed stratigraphic modeling using spatial sequential Bayesian updating algorithm. *Journal of Rock Mechanics and Geotechnical Engineering*, 17, 4400- 4412.
7. Yan, W., Xu, W. M., Huang, T. S., Shen, P., **Zhou, W. H.** (2024). High-temporal-resolution ERT characterization for vegetation effects on soil hydrological response under wet-dry cycles. *Biogeotechnics*, 100155.
8. Huang, H., **Zhou, W. H.**, Qin, S., & Bezuijen, A. (2024). A simple model incorporating foam rheology to quantify foam penetration behaviour in EPB shield tunnelling. *Transportation Geotechnics*, 49, 101380.
9. Li, X., **Zhou, W. H.**, & Liu, J. K. (2024). Stress-dilatancy behavior of marine coral sand incorporating non-plastic fines, *Engineering Geology*, 324, 107764.
10. Huang, H., **Zhou, W. H.** Foam Penetration Behavior in EPB Shield Tunneling: Insights from Model Experiments[C]. *International Conference on Transportation Geotechnics*. Singapore: Springer Nature Singapore, 2024: 103-111.
11. Li, X., **Zhou, W. H.**, & Wang, C. Particle Breakage Prediction of Coral Sand Using Machine Learning Method[C]. *International Conference on Transportation Geotechnics*. Singapore: Springer Nature Singapore, 2024: 247-256.
12. Wu, W.P., Kannangara, K.K.P.M. & **Zhou, W.H.** (2024). Investigation of small-strain shear modulus of marine sediment treated with different flocculants. *Discov Civ Eng* 1, 92.
13. Kannangara, K.K.P.M., Su, L.J. & Zhou, W.H. (2024). Analysis of post-ground settlement induced during twin tunnelling in silty sand. *Tunnelling and Underground Space Technology* 152, 105949.
14. Yan, W., Guan, Z., Zhou, W.H. & Shen, P. (2024). A flexible and efficient model coupling multi-type data for 2D/3D stratigraphic modeling. *Bulletin of Engineering Geology and the Environment* 83 (5), 1-18.

15. Jing, J.H., Guo, Y. X., Wang, T. & **Zhou, W. H.** (2024). A Femtosecond Fiber Bragg Grating-Based High-Sensitivity Ocean Pressure Sensor., 24 (10): 16102-16112.
16. Li, X., **Zhou, W. H.**, Liu, J. K., & Wang, C. (2024). Influence of non-plastic fines and density state on stress-dilatancy behavior of coral sand: an experimental investigation. *Acta Geotechnica*, <https://doi.org/10.1007/511440-024-02286-z>.
17. Zhou, Z., Thomas Man-Hoi Lok & **Zhou, W. H.** (2024). Surface wave inversion with unknown number of soil layers based on a hybrid learning procedure of deep learning and genetic algorithm. *EARTHQUAKE ENGINEERING AND ENGINEERING VIBRATION*, 23(2): 345-358
18. Jing, J.H., Guo, Y. X., Wang, T. & **Zhou, W. H.** (2024).. ITO Film-Coated SPR Sensor Based on Plastic Optical Fiber for Seawater Salinity Measurement[J]. *Journal of Lightwave Technology*, 2024(24):42.DOI:10.1109/JLT.2024.3439860.
19. Cheng, Y., Wang, T., Wang, P., Qin, Su., **Zhou, W. H.**, Yin, Z. Y.. Hydromechanical analysis of slurry infiltration with coupled CFD–DEM method[J]. *International journal for numerical and analytical methods in geomechanics*, 2024(11):48.DOI:10.1002/nag.3762.
20. Huang, H., Sun, Q., Xu, T., & **Zhou, W.** (2024). Mechanism analysis of foam penetration in EPB shield tunnelling with a focus on FER and soil particle size. *Underground Space*, 17, 170-187.
21. Tang, C., He, S., & **Zhou, W.** (2024). An efficient physics-guided bayesian framework for predicting ground settlement profile during excavations in clay. *Journal of Rock Mechanics and Geotechnical Engineering*.
22. He, S. Y., Tang, C., & **Zhou, W. H.** (2024). Settlement prediction of immersed tunnel considering time-dependent foundation modulus. *Tunnelling and Underground Space Technology*, 144, 105562.
23. He, S. Y., **Zhou, W. H.**, & Tang, C. (2024). Physics-Informed Neural Networks for Settlement Analysis of the Immersed Tunnel of the Hong Kong–Zhuhai–Macau Bridge. *International Journal of Geomechanics*, 24(1), 04023241.
24. He, S. Y., Kuok, S. C., Tang, C., & **Zhou, W. H.** (2023). Efficient Bayesian Model Updating for Settlement Prediction of the Immersed Tunnel of HZMB. *Transportation Geotechnics*, 101179.
25. Shen, P., Wei, S., Shi, H., Gao, L., & **Zhou, W. H.** (2023). Coastal flood risk and smart resilience evaluation under changing climate. *Ocean-Land-Atmosphere Research*.
26. Qin, S., Cheng, Y., & **Zhou, W. H.** (2023). State-of-the-art review on pressure infiltration behavior of bentonite slurry into saturated sand for TBM tunneling. *Smart Construction and Sustainable Cities*, 1(1), 14.
27. Tang, C., He, S. Y., Guan, Z., **Zhou, W. H.**, & Yin, Z. Y. (2023). Enhanced elastic beam model with BADS integrated for settlement assessment of immersed tunnels. *Underground Space*, 12, 79-88.
28. Yan, W., Shen, P., **Zhou, W. H.**, & Ma, G. (2023). A rigorous random field-based framework for 3D stratigraphic uncertainty modelling. *Engineering Geology*, 323, 107235.

29. Zhao, L. S., **Zhou, W. H.**, & Shen, S. L. (2023). Semianalytical Solution for Dissipation Process of Partially Saturated Soils Considering Nonsmooth Boundary and Stress Level. *Journal of Engineering Mechanics*, 149(9), 04023057.
30. Wang, D., Zhu, H., Zhou, G., Yu, W., Wang, B., & **Zhou, W. H.** (2023). Monitoring shear deformation of sliding zone via fiber Bragg grating and particle image velocimetry. *Journal of Rock Mechanics and Geotechnical Engineering*.
31. Cheng, Z., Kannangara, K. K. P. M., Su, L.J., **Zhou, W.H.** (2023). Mathematical model for approximating shield tunneling-induced surface settlement via multi-gene genetic programming. *Acta Geotechnica*, 0123456789.
32. Qin, S., Xu, T., **Zhou, W.H.**, & Bezuijen, A. (2023). Infiltration behaviour and microstructure of filter cake from sand-modified bentonite slurry. *Transportation Geotechnics*, 40, 100963.
33. Qin, S., **Zhou, W.H.**, & Xu, T. (2023). Effects of seawater on the infiltration behavior of bentonite slurry into sand. *Construction and Building Materials*, 371, 130759.
34. Yan, W., **Zhou, W.H.**, & Shen, P. (2023). An Uncertainty-driven Peak-integration (UP) Strategy for 3D Borehole Layout Planning. *Computers and Geotechnics*, 156, 105280.
35. Tang, C., He, S. Y., & **Zhou, W.H.** (2023). A beam on elastic foundation method for predicting deflection of braced excavations considering uncertainties. *International Journal for Numerical and Analytical Methods in Geomechanics*, 47(4), 533 – 548.
36. Yan, W., Shen, P., & **Zhou, W.H.** (2023). A hybrid physical data informed DNN in axial displacement prediction of immersed tunnel joint. *Georisk : Assessment and Management of Risk for Engineered Systems and Geohazards*, 1-12.
37. Cheng, Z. L., Kannangara, K. K. P. M., Su, L. J., **Zhou, W.H.**, & Tian, C. (2023). Physics-guided genetic programming for predicting field-monitored suction variation with effects of vegetation and atmosphere. *Engineering Geology*, 315, 107031.
38. Li, Y., **Zhou, W.H.**, & Shen, P. (2023). Flood risk assessment of loss of life for a coastal city under the compound effect of storm surge and rainfall. *Urban Climate*, 47, 101396.
39. Chen, W.B., **Zhou, W.H.**, & Yin, Z.Y. (2022). Recent Development on Macro – Micro Mechanism of Soil-Structure Interface Shearing Through DEM. *Archives of Computational Methods in Engineering*, 1-20.
40. Li, Y., Shen, P., Yan, Y., & **Zhou, W.H.** (2022). Flood risk assessment of artificial islands under compound rain-tide-wind effects during tropical cyclones. *Journal of Hydrology*, 615, 128736.
41. Tang, C., He, S.Y., & **Zhou, W.H.** (2022). Settlement-based framework for long-term serviceability assessment of immersed tunnels. *Reliability Engineering & System Safety*, 228, 108801.
42. Zhou, Z., Lok, T. M. H., **Zhou, W. H.**, & Zhao, L.S. (2022). An Analytical Solution for the Deformation of Soft Ground Reinforced by Columnar Inclusions under Equal Stress Conditions. *Applied Sciences (Switzerland)*, 12 (22).

43. Qin, S., Xu T., Cheng Z.L., & **Zhou, W.H.** (2022). Analysis of spatiotemporal variations of excess pore water pressure during mechanized tunneling using genetic programming. *Acta Geotechnica*. 1-18.
44. Xu, T., **Zhou, W.H.**, Bezuijen, A., & Qin, S. (2022). Effects of sand and slurry characteristics on pressure infiltration of bentonite slurry into sand. *Géotechnique*, 0 (0), 1-34.
45. Cheng, Y., **Zhou, W.H.**, & Xu, T. (2022). Tunneling-induced settlement prediction using the hybrid feature selection method for feature optimization. *Transportation Geotechnics*, 36, 100808.
46. Lu, Z., **Zhou, W.H.**, Asce, M., & Yin, Z.Y. (2022). Effect of Viscosity on Slurry Infiltration in Granular Media. 22(9), 1-14.
47. Cheng, Z.L., **Zhou, W.H.**, and Tian, C., (2022) Multi-perspective analysis on rainfall-induced spatial response of soil suction in a vegetated soil. *Journal of Rock Mechanics and Geotechnical Engineering*. 14 (4), 1280-1291.
48. Kannangara K.K.P.M., **Zhou, W.H.**, Ding, Z., & Hong, Z.H. (2022) Investigation of feature contribution to shield tunneling-induced settlement using shapley additive explanations method. *Journal of Rock Mechanics and Geotechnical Engineering*. 14 (4), 1052-1063.
49. Li, Y., **Zhou, W.H.**, & Shen, P. (2022). Pedestrian danger assessment under rainstorm-induced flood disaster for an artificial island. *International Journal of Disaster Risk Reduction*, 78, 103133.
50. Lu, Z., **Zhou, W.H.**, Yin, Z.Y., & Yang, J. (2022). Numerical modeling of viscous slurry infiltration in sand. *Computers and Geotechnics*, 146, 104745.
51. Ding, Z., Zhao, L.S., **Zhou, W.H.**, & Bezuijen, A. (2022). Intelligent Prediction of Multi-Factor-Oriented Ground Settlement During TBM Tunneling in Soft Soil. *Frontiers in Built Environment*, 8.
52. Kannangara, K.K.P.M., Ding, Z., & **Zhou, W.H.** (2022). Surface settlements induced by twin tunneling in silty sand. *Underground Space*, 7 (1), 58-75
53. Ding, Z., He, S.Y., **Zhou, W.H.**, Xu, T., He, S.H., & Zhang, X. (2021). Analysis of ground deformation induced by shield tunneling considering the effects of muck discharge and grouting. *Transportation Geotechnics*, 30, 100629.
54. Xiong, L., Guo, Y.X., **Zhou, W.H.**, Chen, M., & Zhou, X.L. (2021). Fiber Bragg Grating-Based Three-Axis Vibration Sensor. *IEEE Sensors Journal*, 21(22), 25749 – 25757.
55. Wang, P., Yin, Z.Y., **Zhou, W.H.**, & Chen, W.B. (2021). Micro-mechanical analysis of soil – structure interface behavior under constant normal stiffness condition with DEM. *Acta Geotechnica*, 17(7), 2711 – 2733.
56. Guo, Y.X., **Zhou, W.H.**, Xiong, L., Zhou, X.L., & Li, L.T. (2021). A Fiber Bragg Grating Sensor for Positive and Negative Displacement Measurement. *IEEE Sensors Journal*, 21(19), 21564-21571.
57. Guo, Y.X., Xiong, L., Wu, H., **Zhou, W.H.**, Zhou, X.L., & Liu, H.H. (2021). A FBG Inclinometer for Simultaneous Measurement of Horizontal Deformation and Sudden Deformation. *IEEE Transactions on Instrumentation and Measurement*, 70.

58. Wang, A.Q., Hu, Y.Y., **Zhou, W.H.**, & Liu, X.W. (2021). Analysis of one-dimensional nonlinear consolidation of a saturated lumpy porous clay layer. *Computers and Geotechnics*, 140, 104458.
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### *Patents*

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