Chung, Chih-Chung (鐘志忠) Ph.D.

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Expertise

Soil mechanics,
Engineering monitoring,
Engineering geophysics investigation,
Geotechnical and Hydrological disaster prevention,
Graphical user interface (GUI) programming.

Education

1. Ph.D., Dept. of Civil Engineering, National Chiao Tung University, Taiwan (Jun. 2003 ~ Aug. 2008)
   Thesis Title: Improved Time Domain Reflectometry Measurements and Its Application to Characterization of Soil-Water Mixtures
2. Master, Dept. of Civil Engineering, National Chiao Tung University, Taiwan (Jun. 1998 ~ Aug. 2002)

Work Experience

1. Professor, Dept. of Civil Engineering, National Central University (Aug. 2023~)
2. Associate Professor, Dept. of Civil Engineering, National Central University (Aug. 2020~ Jul. 2023)
3. Assistant Professor, Dept. of Civil Engineering, National Central University (Aug. 2015~ Jul. 2020)
4. Assistant Research Fellow, Disaster Prevention and Water Environment Research Center, National Chiao Tung University, Taiwan (Aug. 2011 ~ Jul. 2015)
5. Affiliated Assistant Professor, Department of Civil and Disaster Prevention Engineering, National United University (Feb. 2012 ~)

Services

- 2024 Vice President of International Consortium on Landslides (ICL).
- 2024~ Deputy CEO of Sino-Geotechnics
- 2024~ Editorial Board Member of Journal of GeoEngineering, Bulletin of Engineering Geology and the Environment
- 2023~ Committee member of Taiwan Geotechnical Society
- 2022~ AOGS IG Session secretary
- 2021 Guest Editor of Special issue: Geological Uncertainty, Engineering Geology
- 2020~2024 Secretary General, Landslide group in National Central University from Graduate Institute of Applied Geology, Department of Civil Engineering,

Center for Environmental Studies, ICL.

- 2020~ Steering Committee, International Conference on Civil and Environmental Engineering
- 2020~ Editorial Board Member of Journal of Civil, Construction and Environmental Engineering
- 2020~ ISSMGE TC208-Slope Stability in Engineering Practice Technical Committees member
- 2018~ AOGS SE/IG Session Main Convener

Academic Award

1. 2024, Keynote Speaker, Chung,.C.-C. (2024)5th International Conference on Sustainability in Civil Engineering, 2024, Hanoi, Vietnam, October 23-25th, 2024.
2. 2023 Excellent Young Researcher Award, Science and Technology Council, Taiwan.
3. 2022 - 2024, Excellent Research Award, National Central University.
4. 2021, Excellent paper award, Conference of Civil Disaster Prevention and Environmental Sustainability
5. 2020, Excellent paper award, 2020 Geotechnical Engineering Conference, ROC.
6. 2016, Invited Speaker, Chung,.C.-C. (2016), "Landslide Monitoring using Time Domain Reflectometry: Case studies," 2016 International Conference on Civil and Environmental Engineering (ICCEE) Conference, Oct. 17-19, Hiroshima, Japan.

Publications

Journal papers

1. Ren, G.-L., Huang, W.-H., Lin, Z.-H., **Chung, C.C.***, (2025) Laboratory assessment of real-time water infiltration measurement in SPV200 bentonite using TDR for high-level radioactive waste disposal design. Measurement, 116077. https://doi.org/10.1016/j.measurement.2024.116077
2. Ren, G.-L., Huang, W.-H., Chou, H.-K., **Chung, C.C.*,** (2024) Understanding the Creep Behavior of Bentonite-Sand Mixtures as Buffer Materials in a Low-Level Radioactive Waste Repository in Taiwan. Nuclear Engineering and Technology. https://doi.org/10.1016/j.net.2024.04.035 (SCI, EI) (IF: 2.7)
3. **Chung, C.-C.***, Ren, G.-L., Chen, I.-T., Cuo, C.-J., Chang, H.-C. (2024) Swelling and hydraulic characteristics of two grade bentonites under varying conditions for low-level radioactive waste repository design. Nuclear Engineering and Technology, 56(4), 1385-1397. https://doi.org/10.1016/j.net.2023.11.043 (SCI, EI) (IF: 2.7)
4. Shiu, C.C., **Chung, C.-C.***. Chiang, T. (2024) Enhancing the EPANET hydraulic model through genetic algorithm optimization of pipe roughness coefficients. Water Resource Management. https://doi.org/10.1007/s11269-023-03672-0 (SCI, EI) (IF: 4.3)
5. **Chung, C.-C.**,* Yen, K.-L., Huang M.-T., Zada, U. (2023) Practical procedures of faults and aging inspection to photovoltaic system using Time Domain Reflectometry. Solar Energy, 266, 112204. https://doi.org/10.1016/j.solener.2023.112204 (SCI, EI) (IF: 6.7)
6. Bahti, F.N., **Chung, C.-C.***, Lin, C.-C. (2023) Parametric test of the Sentinel 1A persistent scatterer- and small baseline subset-interferogram synthetic aperture radar processing using the Stanford method for persistent scatterers

for practical landslide monitoring. Remote Sensing. 15(19):4662. https://doi.org/10.3390/rs15194662 (SCI, EI) (IF: 5.0)

7. **Chung, C.-C.,*** Chien, W.-F., Tran, V. N., Tang, H.-T., Li, Z.-Y, Saqlain, M. (2023) Laboratory Development of TDR Automatic Distributed Settlement Sensing for Land Subsidence Monitoring. Measurement, 112938. https://doi.org/10.1016/j.measurement.2023.112938 (SCI, EI) (IF: 5.131)
8. Ni, C.-F. **Chung, C.-C.**, Zhang, L. Wang, Y., Dong, J.-J. (2023) Preface of the special issue on "Geological uncertainty and its impact on geohazards and water resources assessments and infrastructure design", Engineering Geology, 313, 106981, https://doi.org/10.1016/j.enggeo.2022.106981. (SCI, EI) (IF: 6.902)
9. **Chung, C.-C.**,*, Tran, V. N., Azhar, M. (2022) Guidelines from direct shear modeling in centrifuge for TDR landslide monitoring. Engineering Geology, 310, 106870. https://doi.org/10.1016/j.enggeo.2022.106870 (SCI, EI) (IF: 6.902)
10. Shiu. C.-C., Chiang, T.-P., **Chung, C.-C.** (2022) A Modified Hydrologic Model Algorithm Based on Integrating Graph Theory and GIS Database. Water, 14, 3000. https://doi.org/10.3390/w14193000. (SCI, EI) (IF:3.53)
11. **Chung, C.-C.**,* Wei, S.-K., Tang, H.-T. (2022). Optimal TDR Penetrometer Design for Soil Water Content and Electrical Conductivity Profiling. Geotechnical Testing Journal, 46(1), 20220030. https://doi.org/10.1520/GTJ20220030. (SCI, EI) (IF:1.82)
12. **Chung, C.-C.,*** Wang, Y.-K. (2022) Practical Assessment of Real time Suspended Sediment Load Monitoring using Time Domain Reflectometry, Water Resources Research, 58, e2022WR032289. https://doi.org/10.1029/2022WR032289. (SCI, EI) (IF: 6.159)
13. Ren, G.-L., **Chung, C.-C.**, Tsai, C.-E., Cuo, C.-J., Huang, W.-H. (2022) Experimental Study on the Thermal Conductivity of Compacted SPV200 Bentonite. Minerals, 12(8):932. https://doi.org/10.3390/min12080932. (SCI, EI) (IF:2.818)
14. **Chung, C.-C.**, Li, Z-Y. (2022) Rapid Landslide Risk Zoning toward Multi-Slope Units of the Neikuihui Tribe for Preliminary Disaster Management, Natural Hazards and Earth System Sciences (NHESS) 22, 1777–1794, https://doi.org/10.5194/nhess-22-1777-2022. (SCI, EI) (IF: 4.58)
15. **Chung, C.-C.**, Lin, C.-P. Ngui Y.-J., Lin, W.-C., and Yang, C.-S. (2022) Improved technical guide from physical model tests for TDR landslide monitoring, Engineering Geology, 296, 106417. doi: 10.1016/j.enggeo.2021.106417. (SCI, EI) (IF: 6.902)
16. **Chung, C.-C.**, Lin, C.-P. Ngui Y.-J., Lin, W.-C., and Yang, C.-S. (2022) Improved technical guide from physical model tests for TDR landslide monitoring, Engineering Geology, doi: 10.1016/j.enggeo.2021.106417. (SCI, EI)
17. **Chung, C.-C.**, Lin, C.-P. (2019) A Comprehensive framework of TDR landslide monitoring and early warning substantiated by field examples, Engineering Geology, 262, 105330, doi: 10.1016/j.enggeo.2019.
18. **Chung, C.-C.**, Huang, C.-Y., Guan, C.-R., and Jian, J.-H. (2019) Applying OGC Sensor Web Enablement standards to develop a TDR multi-functional measurement model. Sensors, 19, 4070; doi:10.3390/s19194070.
19. **Chung, C.-C.**, Lin, C.-P, Yan, S.-H. Lin, J-Y., and Lin, C.-H. (2019) investigation of non-unique relationship between soil electrical conductivity

and water content due to drying-wetting rate using TDR, Engineering Geology, 252, 54-64.

20. Wang, K., Lin, C.-P, **Chung, C.-C.** (2019) A bundled time domain reflectometry-based sensing cable for monitoring of bridge scour. Structural Control and Health Monitoring, DOI: 10.1002/stc.2345.
21. Lin, C.-H., Lin, C.-P, Hung, I.-C., **Chung, C.-C.,** Wu, P.-L., and Liu, H.-C., (2018) "Application of geophysical methods in a dam project: Life cycle perspective and Taiwan experience," Journal of Applied Geophysics, 158, 82-92.
22. Lin, C.-P, Wang, K., **Chung, C.-C.,** and Weng, Y.-W. (2017) "New types of TDR sensing waveguides for bridge scour monitoring," Smart Materials and Structures, DOI: 10.1088/1361-665X/aa71f9. (SCI, EI)
23. **Chung, C.-C.**, Lin, C.-P., Chin, C.-H., and Chou, K.-H. (2017) "Development and implementation of horizontal-plane settlement indicator system (HSIS) for freeway safety monitoring during underpass construction," Journal Structural Control and Health Monitoring, DOI:10.1002/stc.1995.
24. **Chung, C.-C.**, Lin, C.-P., Ngui. Y., Wang, K., and Lin, C.-S., (2016) "Laboratory Evaluation of Soil-Nailing Quality Inspection by an Improved TDR Method" Journal of GeoEngineering, 11(3), 143-149. (Excellent Paper Award)
25. Lin, C.-P., Tang, S.-H., Lin, C.-H., and **Chung, C.-C.**, (2015) "An improved modeling of TDR signal propagation for measuring complex dielectric permittivity," Journal of Earth Science, 26(6), 827-834. (SCI, EI)
26. **Chung, C.-C.**, Lin, C.-P., Wang, K., Lin, C.-S., and Ngui. Y., (2015) "Improved TDR Method for Quality Control of Soil-Nailing Works," Journal of Geotechnical and Geoenvironmental Engineering, 10.1061/(ASCE)GT.1943-5606.0001372 , 06015011. (SCI, EI)

Book

1. Chung, C.-C, Chen, B.-C., Tseng, T.-W., Lee, Y-T. (2024) The slope monitoring using embedded system with optical-thermal image fusion and machine learning. In: Abolmasov, B. et al. Progress in Landslide Research and Technology, Volume 3 Issue 1, 2024. Progress in Landslide Research and Technology. Springer, Cham.
2. Lin, C.-P., Chung, C.-C, Wu, I-L., Wu, P.-L., Lin, C.-H., and Wu, C.-H., (2016) "Extensive monitoring system of sediment transport for reservoir sediment management," Chapter 10, Natural Resources and Control Processes, Ed. by L.K. Wang, M.H.S Wang, Y.T. Hung, and N.K. Shammas, Handbook of Environmental Engineering, Volume 14, Springer Science, USA.

Conference papers

1. Chih-Chung Chung (2024)5th International Conference on Sustainability in Civil Engineering, 2024, Hanoi, Vietnam, October 23-25th, 2024. (Keynote Speaker).
2. Chih-Chung Chung, Umar Zada (2024) Strain Monitoring Using Distributed Fiber Optics during Rainfall Induced Landslides. 14th International Symposium on Landslide, 8 ~12 Jul. France.
3. Chih-Chung Chung (2024) TDR as the Versatile Landslide Monitoring Technique. 14th International Symposium on Landslide, 8 ~12 Jul. France.
4. Chih-Chung Chung, Bo-Chi Chen, Cheng-Chun Lin, Yu-Zhi Qiu, Te-Wei Tseng (2024) Development of multi-spatial-temporal fusion technologies for

landslide monitoring. Asia Oceania Geosciences Society, 24 Jun.~ 28 Jun., South Korea.

5. Chih-Chung Chung, Umar Zada (2024) Utilizing Distributed Optical Fiber-Based BOTDR for Studying Land Subsidence and Physical Shear Modeling. Fibre Optica Sensing in Geoscience, Catania, Italy, 16-20 June, 2024.
6. Chih-Chung Chung, Umar Zada (2024) Utilizing Distributed Optical Fiber-Based BOTDR for Studying Land Subsidence and Physical Shear Modeling. Fibre Optica Sensing in Geoscience, Catania, Italy, 16-20 June, 2024.
7. Chih-Chung Chung, Umar Zada (2024) Applications of Distributed Optical Fiber-Based BOTDR for Revealing Land Subsidence and Physical Shear Modeling, 2024 Korean Society of Engineering Geology Spring Conference.
8. Chih-Chung Chung, Umar Zada (2023) TDR multi-function monitoring technique for Geotechnical and Hydrology Applications. Global Webinar on Civil, Architectural, and Environmental Engineering (WEBCIVIL-2023). (Keynote Speaker).
9. Chung, C.-C., Wu, R.-S., Dong, J.-J., Tien, Y.-M., Wang. T.-T., Huang, W.-C., Wang, K.-L., Hung, W.-Y., Weng, M.-C. (2023) "Introduction and Promotion of WLF 7 in Taiwan 2026," 6th World Landslide Forum, Florence, Italy.
10. Azhar, M., Chung, C.-C., Zada, U. (2023) "Dielectric spectrum analysis of soils due to drying-wetting rate and environment influences using TDR pressure plate," 6th World Landslide Forum, Florence, Italy.
11. Chung, C.-C., Zada, U. (2023) Comparatively study of slope displacements using distributed fiber optic sensing technology and Inclinometer. 17th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering, 14-18 August, Astana, Kazakhstan
12. Chung, C.-C., Zada, U., Li, Z.-Y., Saqlain, M. (2023) Experimental Investigation of Stratum Subsidence Based on Distributed Fiber Optic Sensing, Tenth International Symposium of Land Subsidence, 17-21 April, Delft–Gouda, Netherlands.
13. Chung, C.-C. Lin, C.-C. (2023) Development and Testing of Small Array Corner Reflectors and Synthetic Aperture Radar for Slope Monitoring, Asia Oceania Geosciences Society,30 Jul.~4 Aug., Singapore.
14. Chung, C.-C. Bo-Chi Chen (2022) Fusion of Optical and Thermal Imagery Monitoring for a Long-term Stability Application to Slopes, Asia Oceania Geosciences Society,1~5 Aug., Singapore.
15. C. -P. Lin, Y. J. Ngui, I. -L. Wu, C. -C. Chung and W. -T. Lin, (2021) "High Precision and Range of Concentration Measurement for Sediment-Water Mixture based on Time Domain Reflectometry," 2021 13th International Conference on Electromagnetic Wave Interaction with Water and Moist Substances (ISEMA), pp. 1-5, doi: 10.1109/ISEMA49699.2021.9508295.
16. Chung, C.-C.. (2021) The Development of TDR-integrated landslide Early Warning System, 5th World Landslide Forum, 2-6 November, Kyoto, Japan
17. Fari, N.B., Chung, C.-C. (2021) The Parametric Study of PS-InSAR for Landslide Monitoring – Ali Mt. Case. 2021 Asia Oceania Geosciences Society, 1~6 Aug., Singapore.
18. Chung, C.-C. Li, Z. (2020) . Risk assessment of slope collapse in Neikuihui tribe in Fuxing District, Taoyuan City, The 163rd TCU-ARL Seminar, International Workshop on Data-driven Infrastructure Maintenance and Risk Management, Tokyo, Japan.

19. Chung, C.-C., Tran, Van Nhiem. (2020). Improved TDR deformation monitoring integrating centrifuge physical modeling. 2020 Asia Oceania Geosciences Society, 28 Jun.~4 Jul., Sono Belle Vivaldi Park, Hongcheon.
20. Chung, C.-C., Wei, S.-K. (2019). Modification of TDR penetrometer for water content profiling in shallow landslide monitoring. 2019 Asia Oceania Geosciences Society, 27 Jul.~2 Aug., Singapore.
21. Kuo-Yu slayer Chuang, Venus Chen, Chih-Chung Chung, and Jia-Jen Jan (2019). The innovative all-in-one ICT platform, geoBingAn, for disaster response used by the local community. European Geosciences Union General Assembly (EGU), 7–12 April, Vienna, Austria. (MOST 107-2119-M-008-005)
22. Chih-Chung Chung, Yi-Chien Wu, Wei-Hsian Wang, Zhi-Yu Chen, Ping-Ting Chen, and Sheng-Yu Chuang (2019). Landslide monitoring using TDR and related numeral stability analysis in Mountain Ali, Taiwan. European Geosciences Union General Assembly (EGU), 7–12 April, Vienna, Austria. (MOST 107-2625-M-008-010)
23. Lin C.-P., Wu, I-L., Chung, C.-C., Ngui, Y.-J., and Yeh, C.-H. (2019) Extensive Monitoring System of Sediment Transport for Reservoir Sediment Management, 3rd International Workshop on Sediment Bypass Tunnels, April 9-12, Taipei.