Biographical Information

Dr. Yang Kuo-Hsin is currently an Associate Professor in Geotechnical Engineering Program of Department of Civil Engineering at the National Taiwan University (NTU). He completed his Ph.D. degree at the University of Texas in Austin in 2009 under the supervision of Professor Jorge Zornberg for research entitled “Stress Distribution within Geosynthetic-Reinforced Soil Structures.” He received his Master degree from the University of Michigan at Ann Arbor in 2004 and Bachelor of Science degree from National Taiwan University in 2000. He was a former assistant and associate professor in Department of Civil and Construction Engineering at the National Taiwan University of Science and Technology (Taiwan Tech) from 2009 to 2017. He was a visiting scholar in the Department of Civil Engineering at the Royal Military College (RMC), Canada in 2015. Dr. Yang has many years’ experience in research and practice in geotechnical and geosynthetics engineering and contributed considerably to this field in education and service.

As part of his research and practical experience, Dr. Yang focuses on the geo-environmental and geo-disaster engineering related research issues. Three main research directions are: 1. Coupled hydro-mechanical analysis of unsaturated instable slopes subject to rainfall infiltration; 2. Seepage induced soil piping and internal erosion; 3. Application of geosynthetics for sustainable engineering against natural disaster. Dr. Yang has conducted many researches and projects on the analysis, design and case study of slopes and earth retaining structures using both numerical modeling (limit equilibrium and finite element) and physical tests (centrifuge, reduced scale model, and field monitoring). The aim is to provide better understanding of the performance and failure mechanism of slopes and earth structures subject to natural disaster (heavy rainfall, flood, seismic loadings, and fault movement). The research results are applied to prevent and mitigate the natural disaster induced damage or collapse of geotechnical earth structures, and to achieve the ultimate goal of establishing sustainable infrastructures and safe homeland. Recently, Dr. Yang is dedicated to investigate the performance of geosynthetic-reinforced soil (GRS) structures with marginal backfills subjected to rainfall, as a common and significant problem for the application of GRS structures in Taiwan and Southeast Asian countries which located in the tropic areas. Based on the results and findings from the research, methods for backfill selection, stability evaluation, as well as improved design recommendations are proposed to benefit the practical design of GRS structures against heavy rainfall.

Dr. Yang is the author and co-author of more than 100 publications in journals, conference proceedings, and reports. Among these publications, many papers were published in the most

reputable journals in this field, e.g., *Geosynthetics International*, *Geotextiles and Geomembranes*, *Journal of Geotechnical and Geoenvironmental Engineering*, and *International Journal of Geomechanics*. In recognition of his research work, Dr. Yang received the Best Paper Award from the *Journal of GeoEngineering* in 2012, the Best Conference Paper Award from the 7th Asia Young Geotechnical Engineers Conference under the auspices of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) in 2012, the Young Member Achievement Award from International Geosynthetics Society (IGS) in 2014, and the Young Scholar Research Award from National Taiwan University of Science and Technology in 2016. He was also awarded the Outstanding Young Researcher Project (3-year research grant) from the Ministry of Science and Technology, Taiwan two times from 2013-2016 and 2018-2021 for research projects related to reinforced soil structures.

Regarding his contribution to education, Dr. Yang taught many geotechnical related courses in graduate level (e.g., *Application of Geosynthetics, Advanced Foundation Engineering, Design of Reinforced Earth Retaining Structures, and Numerical Method in Geotechnical Engineering*) and undergraduate level (e.g., *Soil Mechanics, Soil Mechanics Lab, Intermediate Soil Mechanics, Foundation Engineering, Mechanics of Materials, and Design of Foundation and Hillside-Special Projects*). In the *Reinforced Earth Structures* course, he also organized a small-scale MSE wall competition for students. This competition allowed students to receive hands-on experience in designing and building reinforced soil structures in a fun and interesting manner.

Dr. Yang has supervised 7 Ph.D. students, 41 master students, and 10 undergraduate students. Under Dr. Yang's supervision, two of his Ph.D. students (one from Kenya and the other from Vietnam) were selected as one of the 10 paper winners to present his research paper in the IGS Young Members Forum in the 11th (2018) and 10th (2014) International Conference on Geosynthetics. In addition, two of his former graduate students (one from Taiwan and the other from Indonesia) received the IGS Student Award and presented their research at the Asian Regional Conference on Geosynthetics in Bangkok, Thailand in 2012. One of his former graduate students (from Taiwan) received Geotechnical Engineering Master Thesis Award from Taiwan Geotechnical Society in 2018.

Regarding his service and participation, Dr. Yang participates in the ISSMGE Asian technical committee for urban geoengineering, and in the IGS technical committee for soil reinforcement. He serves as the council committee member and academic committee member in the Taiwan Geotechnical Society and Taiwan Geosynthetics Society. He also serves as the executive editor and editorial board member of the *Journal of GeoEngineering*. He is in the

organization committee for the 16th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering (16ARC 2019), and the 7th Asian Regional Conference on Geosynthetics (GeoAsia 2021).

Dr. Yang was selected as the Taiwanese delegate for the 7th Asia Young Geotechnical Engineers Conference (2012) in Tokushima, Japan, and for the 8th Southeast Asian Geotechnical Conference-Young People Session (2013) in Singapore. During these events, he had the opportunity to interact with delegates from other countries and introduced them to his research on and experience in reinforced soil structures. Dr. Yang has also participated in and presented his research at several domestic and international conferences, including ICG (2018, 2014), Geo-Asia (2016, 2012), SEAGC (2013, 2010), Geo-Congress (2013, 2012), AYGEC (2012), Earth Retention Conference (2010), Geo-Taiwan (2017, 2015, 2013, 2011), and GSI-Asia (2010). Dr. Yang was also invited to deliver lectures at university seminars and annual society meetings and to teach short courses in workshops organized by the Professional Civil Engineers Association, governmental agencies and consulting engineering company.