

# SPATIAL AND TEMPORAL ANALYSIS OF LANDSLIDE SUSCEPTIBILITY AND RESILIENCE WITH THE IMPACT OF CLIMATE CHANGE

## Speaker

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## Abstract

Due to the impact of climate change, the increasing frequency of extreme rainfall events, with concentrated rainfalls, commonly cause landslide hazard in the mountain areas of Taiwan. However, there are uncertainties for the predicted rainfall as well as the landslide susceptibility analysis. This study employs machine learning approached, including the logistic regression method LR to analyze the landslide susceptibilities. Together with the predicted temporal rainfall, the predictive analysis of landslide susceptibility and resilience was performed in the adopted study area in Central Taiwan. The uncertainties within the rainfall prediction was firstly investigated before applied to the landslide susceptibility analysis. To assess the susceptibility of the landslides, logistic regression method LR was applied. The results of predictive analysis, with the discussions on the accuracy and uncertainties, can be applied for the landslide hazard management.

## Biography

Keh-Jian (Albert) Shou is now VP Asia of ISSMGE (2022~2026), Chairman of ISTT (2022-2025), Honorary Chairman of CTSTT, and Distinguished Professor of Department of Civil Engineering, National Chung-Hsing University, Taiwan. His research interests include rock mechanics/engineering, engineering geology, and trenchless technologies. He has published more than 200 papers on these topics and is now the Editor of Tunnelling and Underground Space Technology (SCI), Associate Editor of the ASCE Journal of Pipeline Systems Engineering and Practice (SCI) and associate Editor of Underground Space (SCI). He obtained his Ph.D. degree (Civil Engineering) from University of Minnesota, U.S.A. in 1993. His major experience includes: 1. Visiting Professor, CNR-IRPI, Perugia, Italy (2013/8~2014/1). 2. Senior Principal Engineer, Shannon & Wilson, Seattle, USA (2008/2~2008/9), 3. Visiting Professor, TTC, Louisiana Technical University, USA (2006/1~2006/2), 4. Visiting Professor, RCUSS, Kobe University, Japan (2003/10~2004/3), 5. Research Engineer, CSIR/Miningtek, South Africa (1998/2~1999/1), 6. Geotechnical Engineer, National Expressway Engineering Bureau, Taiwan (1993-1994).



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