

## Case studies on ERT monitoring in Taiwan

\*Chien-Chih Chen<sup>1,2</sup>

1. Department of Earth Sciences, National Central University, Taoyuan, Taiwan, 2. Earthquake-Disaster and Risk Evaluation and Management Center, National Central University, Taoyuan, Taiwan

Electrical resistivity tomography (ERT) has been widely used for the investigation to various kinds of urban and mountain hydrogeological problems. Groundwater, together with its physical and chemical conditions, is sensitive to electrical resistivity of soil-rock mixtures. To address these hydrogeological problems *dynamic* factors such as variation in water content and preferential path are even more important than *static* distribution in space of groundwater. Developing real-time ERT monitoring technique thus becomes crucial in hydrogeology. Yet another attractive benefit from a series of consecutive ERT images is to reduce ambiguity in interpreting resistivity structures. While electrical resistive or conductive structures could have multiple explanations in a single ERT image, short-term resistivity/conductivity changes in a series of consecutive ERT monitoring images are very likely attributed to some specific dynamics relevant to, say, water content and pollutant concentration. Given in this presentation are some case studies on ERT monitoring about applications to landslides, water resources management and environmental pollution in Taiwan.

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