

**Invited speaker Topic 2**

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Profile

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Titles

2014-2015: President for Japan Society of Engineering Geology

Position Held

2002-present: Professor of Kagawa University  
2000-2002: Associate Professor of Kagawa University  
1980-2000: Researcher of Shikoku Electric Power Co., Inc.

Research Interests

Mitigation of earthquake & landslide hazards  
Geological engineering valuation of construction sites  
Sustainable society through geopark activity

Education

Ph.D. in Science (University of Tokyo, 1993)  
M.S., University of Tokyo, 1980  
B.S., University of Tokyo, 1978

**Abstract**

**Georisks along active faults of Median Tectonic Line in Shikoku, Southwest Japan**

The Median Tectonic Line (MTL) is one of the most predominant and active faults in Japan. The MTL marks striking contrast in topography between the mountains and alluvial plains in Shikoku, Southwest Japan. The active faults of the MTL are inferred to cause magnitude 7 to 8 class earthquakes on the basis of the fault lengths and the amount of displacement. These topographic contrast and nearby strong earthquakes are the primary cause of landslides along the MTL. Geological investigations have revealed that large-scale landslides have occurred since Early Pleistocene along the fault scarps of the MTL in Shikoku. Recently, many small landslides have occurred due to slope cutting and ground excavation for tunneling during the construction of the expressways. Geotechnical investigations on these landslides have revealed that smectite-bearing clay-rich zones are the origin of sliding surfaces. The smectite is inferred to be formed by hydrothermal alteration which is originated from Middle Miocene volcanism. This hydrothermal alteration also yield fine-grained pyrites which are the main cause of acid soil after slope cutting. The rockmass types of tunnels composed of the Cretaceous Izumi Group is divided into four types from view-points of landslide and hydrothermal alteration. Experience from the Median Tectonic Line in Shikoku provides us typical georisks along major active faults.

**Keywords:** Median Tectonic Line, active fault, hydrothermal alteration, landslide, georisk