

Keynote speaker Topic 1

Professor Masahiro Chigira

Profile

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Date of Birth: 14 February, 1955
Nationality: Japanese



Titles

2011-2013: President for Japan Society of Engineering Geology
:A member of the executive board of the Japan
Landslide Society

Position Held

1997-present: Professor of the Disaster Prevention Research
Institute, Kyoto University
1981-1997: Researcher of the Central Research Institute of Electric Power Industry
2010: RSNZ(Royal Society of New Zealand)-JSPS(Japan Society for the Promotion of
Science)Exchange Scientist

Research Interests

2011-2013: Geological site prediction of potential deep-seated catastrophic landslides
2011-2013: Mechanism of first time landslides
2008-2011: Landslides induced by the Wenchuan earthquake in China
2005-2007: Geological approach to the evaluation of landslides susceptibility on the basis of
landslides inventory and geological and geomorphological features
2003-2004: Formative processes of the weathering profiles of granite and their relation with the
landslide occurrence rainstorms
2003: Current situation of engineering education and professional registration in Europe and the
United States
2002-2004: Geohazards induced by mud diapirism

Education

Dr of Science (University of Tokyo, 1987)
M.S., University of Tokyo, 1980
B.S., University of Tokyo, 1978

Abstract

Geohazards in Asian countries

Geohazards, particularly rock or debris avalanches, travel extremely rapidly for long distances, causing severe damage over wide areas. This paper summarizes the geological and geomorphological features of such events, which were induced by earthquakes and rainstorms in Asia, and then uses these features to predict future potential sites of failures. Most of the rock avalanches are preceded by gravitational slope deformation with topographic features, in which small scarps along future head of landslide are the most representative; the scarps can be identified in topographic images made by high-resolution airborne LiDAR DEMs and may suggest the instability just before catastrophic failure. Earthquake-induced debris avalanches of pyroclastic fall deposits are not preceded by gravitational slope deformation but are of specific sequence of deposits, in which halloysite-rich soil and pumice may accommodate a sliding surface.

Keywords: geohazards, deep-seated landslide, rock avalanche, Asia