

THE SECOND LUMB LECTURE

Failure of Slopes and Soil Property Characterization



Courtesy of Japan Society of Engineering Geology

Presented by Professor Kenji Ishihara

*at 6:00 p.m., 24 October 2002, Theatre One,
Hong Kong Convention & Exhibition Centre
(Admission: Free of Charge)*

**The Lumb Lecture Banquet – \$400/head
(First come first served- limited places available)**



Please contact Ms Belinda Cheung for details

Tel: (852) 2859 2663

Fax: (852) 2559 5337

Email: lumb@hkucc.hku.hk

Website: http://www.hku.hk/civil/lumb_lecture



About the Speaker

Professor Kenji Ishihara is currently a Professor in the Department of Civil Engineering, Chuo University, Tokyo and the Science University of Tokyo. He is also the former President of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE). His major research interest covers problems in soil dynamics associated with earthquakes, such as liquefaction of sandy deposits, and seismic stability of slopes and earth structures. He has served on various occasions as consultant or adviser to UNESCO and UNDP projects. He has been invited to deliver prestigious lectures worldwide, including the theme lecture at the 11th ICSMFE in San Francisco and the 33rd Rankine Lecture of the British Geotechnical Society in 1993.

Synopsis

Many factors, such as the movement of soil debris, are involved in triggering landslides and consequent damage to the surrounding environment. With respect to debris movement, the magnitude of external agencies and susceptibility of earth materials involved are the major contributors to the slides. External agencies, such as rainfall and earthquake would be cited as the most physically visible factors directly associated with the onset of landslides. The susceptibility to movement is expressed in terms of the resistance of earth materials, which corresponds to the peak strength of soils involved in landslides.

The degree of the landslide-induced damage, that is, the consequence of the slides would be governed to a large extent by the volume of the soil mass and how far the debris has travelled after the slide is triggered. Whether the debris movement is induced or not depends upon the nature and the state of deposition of the soil materials. The external agency during the flow-type deformation is the gravity-driven force. The susceptibility to flow-type deformation is expressed in terms of the resistance of soil which is known as residual strength.

In this Lecture, some examples of landslides experienced in recent years will be introduced with emphasis on evaluation of peak and residual strengths of soils involved in the slides. In one example, the peak strength and its interpretation will be addressed in relation to triggering of a large-scale landslide. In other examples, one in terrestrial and another one in submarine, flow slides in gentle slopes will be introduced and interpreted from the concept of residual strength. Based on laboratory tests on soils recovered from the sites of these landslides, characteristic features of material behaviour will be highlighted putting emphasis on the conditions differentiating flow or non-flow type of deformation, depending upon the density and confining stress.

Programme

- 6:00 p.m.** *Welcoming speech by Professor C F Lee*
 Launch of Memorial Lumb Volume by Dr Albert Yeung
 Introduction of Professor Ishihara by Mr R K S Chan
- 6:20 p.m.** *Lumb Lecture*
- 7:30 p.m.** *Vote of thanks by Dr Paul Tong*
- 8:00 p.m.** *Lumb Lecture Banquet*



About Professor Lumb

Professor Lumb became a lecturer in the Department of Civil Engineering, The University of Hong Kong in 1954. After 32 years of service at the University, he retired in 1986. Many of his ex-students have fond memories of him as a modest teacher who preferred to keep a low profile. He dedicated his life towards the 'dawning' of geotechnical engineering in Hong Kong and received numerous awards in recognition of his great contributions.