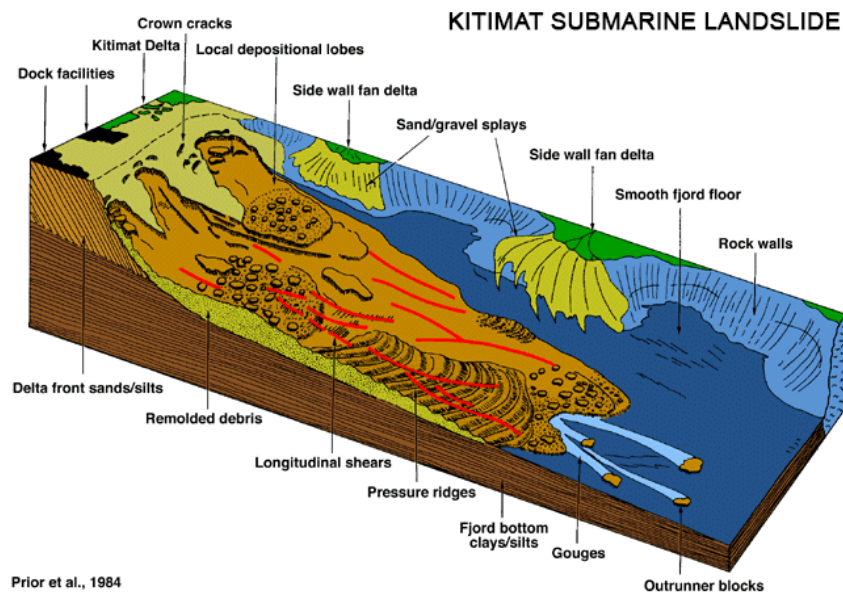




UBC GEOLOGICAL ENGINEERING
AND THE
VANCOUVER GEOTECHNICAL SOCIETY
PROUDLY PRESENT

THE GEOLOGICAL ENGINEERING 2015 DISTINGUISHED LECTURE



“Failure and post-failure analysis of submarine mass movements”

By Prof. Jacques Locat
Geological Engineering, Université Laval

Wednesday, March 11th, 2015 @ 6:30 pm
(refreshments and mingling from 5:00 to 6:30pm)

Please RSVP [here](#)

ESB 1012, Earth Science Building, University of British Columbia
(Link: [Building location and parking information](#))

Public lecture, all are welcome

The Talk: Multibeam sonar and seismic (2D and 3D) surveys provide excellent tools to ascertain the morphology of the sea floor. By investigating the morphology of the starting zone and of the depositional zone one can use that information for estimating various parameters needed for both failure and post-failure analysis. In many cases, the required reduction in shear strength is linked either to the effects of earthquake, gas hydrates or pore pressures with a strong influence of layering. In order to provide a rationale for estimating the magnitude of these triggering mechanism, one must make sure that the consolidation state of the sediment before failure is evaluated in order to carry a relevant back analysis. However, geotechnical cores are not always available and one must extract as much information as possible from geomorphologic and lithological data. For example, this may involve reading the morphology of the failure zone and relating it to slope forming processes. It may also imply distinguishing between slopes formed by sedimentation from those generated by erosion. Similarly, a geomorphological approach can also be used to estimate the yield strength mobilized for observed debris flow deposits, and the run out morpho-stratigraphic characteristics of that mass flow deposit can also be used to evaluate the tsunamigenic potential of the original slide! This approach will be illustrated and discussed in the light of recent studies carried on mass movements in various marine environments in North America and in Europe.

The Speaker: Since 1981, Dr. Jacques Locat has developed many research directions in engineering geology and civil engineering with contributions in the field of marine geotechnical engineering, environmental geotechnics, and natural hazards. During his career, Jacques Locat has been President of the Canadian Geoscience Council (1992) and a Fellow of the Engineering Institute of Canada since 1997. In 2003 he received the Thomas Roy Award of the Canadian Geotechnical Society for his contributions in engineering geology and in 2005 the K.Y. Low Medal of the Engineering Institute of Canada for his international contributions in engineering. He was also awarded the Schuster medal in 2013 to recognize his North American contributions in the field of geohazards, and for submarine mass movements in particular.