

Dams and Canals in seismic environments

Four International Speakers; Foster, Giroud, Mejia, Sommerville

ICE and NZSOLD, in cooperation with University of Canterbury, are pleased to host four internationally recognised speakers who will provide a rare opportunity to hear and discuss developments in the international understanding of dams and canals across different locations; from Christchurch to the Panama Canal. Each of the areas of expertise, granular filters, geomembrane liners, seismic hazard assessment and geotechnical challenges, are all of direct relevance to a number of projects currently being progressed in various locations across New Zealand.

Dr. J.P. Giroud

Dr. Giroud has 41 years of experience with geosynthetics and he coined the words “geotextile” and “geomembrane” in 1977. He is past president of the International Geosynthetics Society. He has developed many of the design methods used in geosynthetics engineering, in particular for liquid containment.

Dr. Giroud will present the use of geomembranes in canals and dams. He will address: geomembrane selection, static and seismic loading, design considerations (geomembrane protection, geomembrane anchorage, void bridging by liner systems, etc.), and case histories with discussion of performance, problems and repairs.

Dr. Paul Somerville

Dr. Paul Somerville has 35 years of seismic hazards experience, and has been involved in the development of seismological methods for earthquake engineering design. Projects include analysis, design and retrofit of bridges, buildings, dams and in many countries including New Zealand, the United States, Japan and Australia.

Dr. Somerville will describe the seismological and engineering characteristics of near-fault ground motions including rupture directivity effects, hanging wall effects and buried rupture effects. He will also discuss other effects; basin response and soil amplification effects, in the recorded ground motions of the September 2, 2010 Darfield and February 22, 2011 Christchurch earthquakes, and discuss the implications of these ground motions for seismic design in New Zealand.

Dr. Lelio H. Mejia

Dr. Mejia has over 30 years of experience of major dam projects worldwide. He was project manager and chief engineer for the design of the Borinquen Dams, a key component of the Panama Canal Expansion Project, and is now manager of the design for the Borinquen Dam 1E construction.

Now nearing its centennial, a much needed upgrade will ensure that this the Panama Canal keeps up with maritime demands. The expansion project will double the capacity of the canal and pose as many engineering challenges as the original construction. Dr. Mejia will present an overview of the expansion project and of the geotechnical challenges involved in this major undertaking.

Dr. Mark Foster

Dr. Mark Foster is well known for his interests in the assessment of internal erosion and piping of embankment dams, upgrading of existing dams to address dam safety deficiencies, and quantitative risk assessment for dam safety. Mark completed his doctoral research studies on developing methods for estimating the probability of failure of embankment dams by internal erosion and piping.

The presentation will discuss the application of the Foster and Fell (2000) filter erosion criteria for assessing dams which have granular filters which are coarser than required by modern design criteria. Several case studies of its application will be presented.

27 January 2012

9.30 a.m. – 2.30 p.m.

Faculty of Engineering, University of Canterbury

The registration fee is \$100 incl. GST per person

Morning tea and lunch will be provided

[Click here to register](#)

Enquiries to Derek Wilshere, NZSOLD:

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We expect this event to sell out, please register early to avoid disappointment.