



Vancouver Geotechnical Society

A Local Section of the Canadian Geotechnical Society

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NOTICE OF UPCOMING DINNER PRESENTATION TUESDAY, JANUARY 25, 2011

SUBJECT: CHILE EARTHQUAKE

SPEAKERS: **Dr. John Cassidy**
Head, Earthquake Seismology Section, Sidney, BC

Dr. John Cassidy is a Research Scientist with the Department of Natural Resources, Geological Survey of Canada (Sidney, BC). He completed his B.Sc. in Honours Physics at the University of Victoria in 1982, his M.Sc. in Geophysics in 1987, and his PhD in Geophysics in 1991 at the University of British Columbia. John specialises in earthquake hazard studies in Canada, and during the past 20 years he has published more than 130 scientific and public information articles. He is an Adjunct Professor at the University of Victoria, where he supervises graduate students and teaches earth science courses. John works closely with the engineering community and emergency management organisations that utilise the results of earthquake research, and he is extremely active in public outreach activities. In March of this year, Dr. Cassidy served as a member of the Canadian Association of Earthquake Engineer's Reconnaissance Team evaluating damage and ground shaking for the magnitude 8.8 Chile earthquake.

Dr. Carlos Ventura, P.Eng
Professor, Department of Civil Engineering, UBC

Carlos Ventura is a Civil Engineer with specializations in structural dynamics and earthquake engineering. He has been a faculty member of the Department of Civil Engineering at the University of British Columbia (UBC) in Canada since 1992. He is currently the Director of the Earthquake Engineering Research Facility (EERF) at UBC, and is the author of more than 300 papers and reports on earthquake engineering, structural dynamics and modal testing. He is a member of several national and international professional societies and advisory committees. Dr. Ventura has conducted research on effects of earthquakes for more than thirty years. His current research is focused on the development of performance-based guidelines for seismic retrofit of schools. In addition to his academic activities, Dr. Ventura is a recognized international consultant on structural vibrations and safety of large Civil Engineering structures.

Mr. Adrian Wightman, P.Eng.
Principal Consultant, BGC Engineering Inc.

Adrian Wightman has 40 years of experience in geotechnical engineering consulting. His experience includes: foundation engineering design and construction for heavy industrial facilities; investigation, layout, design and construction of earth and rockfill dams, including seismic retrofit of dams; seismic hazard assessments; geotechnical earthquake engineering for foundations and earth and rockfill dams. In recent years Mr. Wightman has served on the Standing Committee for Earthquake Design, (SCED), and its predecessor, CANCEE, which periodically updates the seismic design provisions of the Canadian National Building Code. He has participated in the Canadian Association for Earthquake Engineering's reconnaissance teams for the 1999 Izmit(Turkey) earthquake, the 2009 Wenchuan (China) Earthquake, and the 2010 Maule (Chile) Earthquake.

CONTENT:

Presentation by Dr. Cassidy

The M 8.8 Chile earthquake of 27 February, 2010 was the 5th largest earthquake ever recorded instrumentally. This earthquake ruptured more than 500 km's of the fault zone that separates the Nazka Plate from the South American plate along the central coast of Chile. It caused strong shaking throughout most of Chile, was felt to distances of more than 3000 km, generated a devastating tsunami, caused surface displacements of up to 5 m, and resulted in thousands (and thousands) of aftershocks. This portion of the presentation will provide an overview of the tectonics, seismicity and tsunami generated by this earthquake and some key lessons learned for the Cascadia subduction zone of southwest BC. (note - the last subduction earthquake in southwest BC occurred 311 years ago on the night of January 26, 1700.)

Presentation by Dr. Ventura

This part of the presentation will provide an overview of the ground motions recorded during the earthquake and their relationship to the damage observed in the vicinity of the sites where these ground motions were recorded. The implications of the duration and intensity of the recorded ground motions on design of structures will be discussed. An overview of the response of instrumented buildings and bridges that recorded the motions caused by the main shock will be presented and salient features of these responses will be discussed. The talk will be concluded with a comparison of the features of records obtained from subduction earthquakes in other parts of the world with those of the Chile Earthquake.

Presentation by Mr. Wightman

The members of the Canadian Association of Earthquake Engineering Reconnaissance Team spent 7 days and drove over 2,000 km in Chile the week after the earthquake. They will present background on the similarities and differences between Chile and BC, their observations of the performance of the ground and the infrastructure and the lessons they learned for BC. The presentation will include seismicity, bridges, buildings, tsunami, and geotechnical aspects of the earthquake.

DETAILS

Executive Inn, 4201 Lougheed Highway, Burnaby, BC V5C 3Y6 (Phone: 604-298-2010)

Social Hour: 5:30 to 6:30 pm (drinks available at the hotel bar)

Technical Presentation: 6:30 to 7:45 pm

Dinner: 8:00 pm (\$10 will be charged for dinner to cover a small portion of the cost.)

RSVP: Dinner reservation to ali.amini@shaw.ca by Friday, January 21, 2011