



## **Special theme session 6**

### **Seismic evaluation of concrete dams**

Session chair: B.H. Fan

Local coordinator: H.A. Sánchez Sánchez

# Introduction

B.H. Fan (Chair)  
*B.C. Hydro, Canada*

H.A. Sánchez Sánchez (Local coordinator)  
*Centro de Investigación Sísmica A.C., Mexico*

## INTRODUCTION

Damage or failure of dams caused by earthquakes, though relatively infrequent, are events of extremely high consequences. The apparently good performance of concrete dams in past earthquakes has to be viewed in the proper perspective: that recorded incidents may not have involved dams experiencing the maximum credible earthquake for their sites and with full reservoirs, and that performance data reporting may not have been complete.

Assessment of seismic damage is becoming more critical with the realization of the importance of ensuring post-earthquake safety of the dam in its damaged state. Furthermore, with the increasing application of risk principles to dam safety evaluations, it is no longer sufficient to simply provide a dam safety index. Damage imparted by earthquakes needs to be more accurately estimated and consequence evaluated in order to assess the risks involved.

## BACKGROUND

The subject of seismic evaluation of concrete dams does not appear to have been adequately dealt with in earthquake engineering conferences, nor in dam safety conferences. The 11 WCEE special theme session, with a format allowing an extended panel discussion period, is an ideal forum for invited speakers to express their views on the subject, and for session participants to share their experiences with the speakers and with one another.

Six speakers have been invited from different countries around the world to speak on a good variety of topics on the session theme.

## PROGRAMME

Welcome and Introduction  
Session Chair: B.H. Fan  
B.C. Hydro, Canada

Session Format  
Local Coordinator: H.A. Sánchez Sánchez  
Centro de Investigación Sísmica A.C., Mexico

Seismic Behaviour of Low to Medium Height  
Concrete Gravity Dams  
C.A. Taylor, University of Bristol, U.K.

Evaluation of Earthquake Induced Sliding in  
Gravity Dams  
G.L. Fenves, University of California  
Berkeley, U.S.A.

Seismic Fracture Analysis and Post-Tension  
Rehabilitation of Concrete Gravity Dams  
P. Léger, École Polytechnique, Canada

Aseismic Design of Arch Dams  
G. Lin, Dalian University of Technology, China

Comments Concerning Present Regulation on Arch  
Dam Seismic Analysis  
A. Popovici, Technical University of Engineering  
Romania

Seismic Performance and Assessment Criteria for  
Concrete Dams  
M. Wieland, Electrowatt Engineering Services,  
Ltd. Switzerland

Panel Discussion