



## **EVENING MEETING**

**MONDAY 15<sup>TH</sup> NOVEMBER, 2010 at 6:00 PM**

One Great George Street, London

(Nearest tube: Westminster)

## **Geology and Dams**

By

**Dr Robert Chaplow (Robert Chaplow Associates), Chris Hurst (Mott  
MacDonald) and Mike Palmer (Halcrow)**

For a brief synopsis see overleaf

**Admission Free**

**Teas Available from 5.30pm**

**For more information please contact**

**Tim Fuller (BDS Secretary) on 020 7665 2234 or Email :  
bds@ice.org.uk**



## Geology and Dams

### **Dr Robert Chaplow**

Losses of water from a reservoir through its base or margins can have a significant impact on its viability. Evaluating the probable extent of such water losses and reaching conclusions on the potential watertightness of a reservoir is a challenging task involving consideration of geology (especially the presence of geological defects that could act as leakage pathways) and groundwater flow pathways (based on a consideration of the distribution of groundwater pressures and in situ permeability). Using several case histories, the principles of evaluating reservoir watertightness will be illustrated and some of the potential difficulties in these evaluations described.

### **Chris Hurst**

The optimum choice of dam type at a specific site is ultimately governed by economics, resources and programme. However, fundamental to this choice is the geology at the site as this can have a significant influence on all three of these aspects.

A brief introduction to UK geology will be given with emphasis on the significant engineering implications of the geological model, its prediction and performance. Using case histories from around the UK, the geological influences on dam choice and design will be explored. Successes and failures will be highlighted so that lessons learned from the past can be put into practice.

### **Mike Palmer**

The influence of geology has a considerable impact on the design of dams. The principles and use of the geological ground model for the investigation of dams will be discussed using examples from large dams outside the UK. The presentation will illustrate 'weaknesses' that can be found in rock foundations and abutments together with examples of investigation techniques that have been deployed to quantify this information.