



The British Dam Society

EVENING MEETING

Monday 25th February 2019 at 6:00pm

One Great George Street, London (Nearest tube: Westminster)

Comparing levees with dams - finding common interest

Dr Jonathan Simm - HR Wallingford Limited



For a brief presenter biography see overleaf | Admission free | Teas available from 5.30pm

This meeting will also be streamed live on the internet.

For more details on how to view this meeting online, including at one of our Regional Hubs in Glasgow, Warrington, Leeds or Cardiff, please visit the meetings page on the BDS website: www.britishdams.org

For more information please contact the ICE on 020 7665 2147 or email: societyevents@ice.org.uk

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Synopsis

The purpose of this evening meeting is to discuss matters of common interest to both the dams and reservoirs industry and those involved in using levees in flood risk management. The meeting flows out of the setting up within ICOLD of a technical Committee on Levees, the first meetings of which were held at the Vienna Congress in 2018. The main justifications for the inclusion of levees within the scope of ICOLD put forward by member countries were:

- Learning from similarities and differences between levees and dam including in areas such as uplift, piping, breach analysis, consequences assessment, flood hydrology, aging of concrete, public education, risk analysis, and use of geomembranes and geotextiles
- In many ICOLD member countries In terms of the infrastructure portfolio, levees have a scale & scope similar to dams.
- Dams and levees act as a system to protect against droughts and floods and their presence has a mutual effect.

The presentation and the discussion at the meeting will cover two separate aspects:

1. Progress with the Dams vs Levees Inter-comparison Report which was commenced by an EUCOLD WG and is being taken up by the new Levees TC. The report will cover: functions, components and failure modes; dams and levees in flood risk management; governance; design, construction, operation and maintenance; emergency management. The form of the comparison will be to start with brief statements about respective levee and dam practices/properties and the potential lessons to be learned from the similarities and differences. The aim will be to highlight or discuss the areas of levee knowledge that might have added value for the dam community, areas where dam knowledge may or may not be directly applicable to levees. Understanding differences in terminology will be crucial for common understanding. The report is also expected to help to identify key areas where the Levee Committee should aim to co-operate with other ICOLD Committees.
2. Discussion on research being carried out for the Environment Agency on interfaces between levees and flood walls or other hard structures. It is understood from historical floods (both in the UK and internationally) that most levee failures occur around transitions. This is illustrated by well-known cases such as the levee failures in New Orleans during hurricane Katrina, and by the findings from reviews of levee performance during UK flood events since 2007. The research is delivering improved assessment/inspection guidance, quantifying the effects of transitions for use in flood risk analysis via fragility curves and is hoped to provide guidance on retrofitting, which will supplement that available in the International Levee Handbook

Jonathan Simm is Chief Technical Director for Resilience at HR Wallingford with responsibilities in the areas of flood and coastal management, including such areas as performance, risk, materials and sustainability.

Jonathan has had specific experience over the past 30 years in the production of industry guidance documents and was Technical Lead for the International Levee Handbook. Over the last 15 years he has also been involved in the development of improved understanding of the physical performance of flood defences/levees and the representation of this performance via fragility curves to allow the behaviour of to be represented in flood risk systems analysis.