INTERNATIONAL SYMPOSIUM

QUALIFICATION OF DYNAMIC ANALYSES OF DAMS AND THEIR EQUIPMENTS AND OF PROBABILISTIC ASSESSMENT OF SEISMIC HAZARD IN EUROPE

31th August - 2nd September 2016
Saint-Malo / FRANCE

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ORGANIZING COMMITTEES

French Committee on Dams and Reservoirs
Japanese Commission on Large Dams

MEETING VENUE

This international symposium is the first annual meeting of the ICOLD European Club Working Group *"Dams and Earthquakes"*.

A lot of seismic methods are available and a lot of analyses are required by new stringent regulations in Europe.
The points are : "How to define the seismic hazard? How the seismic hazard assessment and dynamic analyses are validated? What are the evidences of flaws or accuracy that you have experimented?"

CFBR invites JCOLD experts to present and discuss qualification of seismic analyses.

The deliverables of the symposium will be fundamental packages of qualification of seismic analyses : case studies of validation with measured data (including accelerograms at foundation and crest) compared to predicted results of seismic analyses.

The meeting will be held in *"Palais des Congrès Le Grand Large"*, in the heart of Saint-Malo City (1, quai Duguay Trouin, 35407 Saint-Malo, +33 2 99 20 60 20).

SUGGESTED ACCOMODATIONS

Be careful and book quickly:
hotels are full in summer
www.saint-malo-tourisme.com

TRAVEL INSTRUCTIONS

http://www.pgl-congres.com/informations-pratiques/acces/

Tours are organized for accompanying persons.

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PRELIMINARY SYMPOSIUM PROGRAMME

WEDNESDAY AUGUST 31TH

Session 1 Qualification of probabilistic seismic hazard assessment

07.30 Registration
08.00 Welcome by CFBR and JCOLD
08.15 Probabilistic seismic hazard assessment, *Christophe DUROUCHOUX*
08.50 Amplification and aggravation factors for site and basin effects, *Kiriasis PITILAKIS*
09.25 Discussion
09.40 Break

Session 2 Performance of AFRD & ACRD

10.00 Performance and analysis of CFRD and AFRD during 2008-2011 earthquakes, *Norihisa MATSUMOTO*
10.35 Evaluation of Earthquake Resistance on asphalt facing, *Yoshio NAKAMURA*
11.00 Dynamic analysis of a large ACRD, *Henrik ARVER*

Session 3 Soils properties and simplified analysis

11.20 Stress-strain behavior of compacted soils related to dam stability, *Prof. Fumio TATSUOKA*
12.00 Lunch and/or break at beach
14.00 Soils properties assessment at Fujinuma dam, *Prof. Fumio TATSUOKA & Tadatsugu TANAKA*
14.30 Simplified analysis taking into account degradation of soil properties, *Antoine DUTTINE*
15.00 Soils properties for the CFBR JCOLD simplified analysis of fill dams, *Jean-Jacques FRY*
15.30 Break
15.50 Simplified analytical relationships for seismically induced slope displacements, *Kiriasis PITILAKIS*
16.20 A simplified method for estimating displacements of homogeneous dams, *Guillaume VEYLON*
17.50 The validation of the CFBR JCOLD simplified analysis for embankment dams, *Moez JELLOULI*
17.20 Discussion on simplified seismic analyses
17.40 End of the daily sessions

Welcome Reception

19.00 up to 20.00 Town visit and aperitif

THURSDAY SEPTEMBER 1ST

Session 4 Qualification of seismic analysis of embankment dams

08.00 Elasto-plastic dynamic response of dams: total & effective stress analyses, *Prof. Tadatsugu TANAKA*
08.35 Effects of future strong earthquakes and other aftershocks on rockfill large dams, *Bachir TOUILEB*
09.00 Effect of long term fluctuation of vibration & different scales of earthquakes, *Zengyan CAO*
09.25 Analysis of the effect of occluded air and pore fluid compressibility, *Luc BOUTONNIER*
09.50 Break
10.10 Unique dam behavior observed during 2008 Iwate Miyagi Nairibu earthquake, *Nario YASUDA*
10.40 Coupled elasto plastic dynamic response of dams, *Fernando-LOPEZ CABALLERO*
11.10 Application of non linear constitutive models to 3D simulation of dams, *Shoichi TSUKUNI*
11.40 Discussion on seismic analyses of embankment dams
12.00 Lunch and/or break at beach

Session 5 Qualification of seismic analyses of concrete dams

14.00 3D reproduction analysis of Kasyo dam, *Norihisa MATSUMOTO*
14.40 Lessons learn from benchmarks on arch dams, *Eric BOURDAROT*
15.10 Monticello dam: a comparison between seismic measured & numerical results, *Giorgia FAGGIANI*
15.40 Overestimated response of concrete dam by conventional approaches, *Emmanuel ROBBE*
16.10 Break
16.30 Characteristics of predominant frequency of existing arch dam, *Masayuki KASHIWAYANAGI*
16.55 Characterization of the dynamic behavior of an arch dam – The Baixo Sabor case study, *Jose LEMOS*
17.20 Characterization of the dynamic behavior of an arch dam & a gravity dam, *Emmanuel ROBBE*
17.45 up to 18.00 Discussion on seismic analyses

Banquet

19.00 Banquet at Palais des Congrès

FRIDAY SEPTEMBER 2ND (morning)

Session 6 Discussion on qualification of seismic analyses of dams

08.00 Main assumptions for simplified seismic analysis of gravity dams, *Bernard TARDIEU*
08.25 Dynamic studies of concrete gravity dams: example of application *Patrick LIGNIER*
08.50 Simplified dynamic analysis of two dams, *Sadri MEVEL*
09.15 Effects of radiative boundary conditions on seismic analysis of gravity dams, *Frederic ANDRIAN*
09.40 Discussion on simplified analyses for gravity dams
10.00 Break

Session 7 Qualification of equipment

10.20 Comparison of design criteria of gates between Japan and France *Pierre-Guilhem BOUQUIER*
10.55 FEM coupled with CFD Analysis of frequencies of gates, in air and in water compared to on-field measurements, *David GRAVELEINE*
11.30 Discussion

Session 8 Conclusions of the 1st ICOLD European Club Working Group

11.45 Lessons & future prospects
12.00 Closure of the symposium

Credit photo : Thomas JOUANNEAU (SIGNATURES)