

About the seminar

Numerical modelling of concrete dams is, due to the potentially disastrous consequences associated to failure of these large structures, a very important field of application. Moreover, the structural analysis and safety assessment of concrete dams comprises a multiplicity of modelling tasks which demand from the engineer extensive knowledge on diverse fields of different phenomenological nature.

The seminar aims to address the most important topics related to the modelling of the behaviour of concrete dams and their foundations, offering to the participants the opportunity of improving their understanding and knowledge on this field, with particular reference to the recent developments of numerical techniques.

The program addresses the general aspects and design issues, the finite and discrete element methods applied to the structural analysis of dams and foundation under static and dynamic load, concrete constitutive models, monitoring of dynamic behaviour, modelling of rock mass foundation, thermal analysis, roller-compacted concrete dams, long term behaviour, swelling processes due to alkali-aggregate reactions, etc.

Who should attend?

- Dam owner's engineers, designers and consultants interested in improving their understanding and knowledge on concrete dams modelling
- PhD/MSc students and graduated students with ongoing studies in topics related to numerical modelling of concrete dams

Registration Fee

Seminar • **250 Euros**

Lunch and refreshments are included in the registration fee

Speakers

Pierre Léger • E.P. Montréal • Canada

Domingos Silva Matos • EDP • Portugal

José Oliveira Pedro • Consultant • Portugal

José Vieira de Lemos, António Lopes Batista,
Noemi Leitão, Sérgio Oliveira, Jorge Pereira Gomes,
José Piteira Gomes, Nuno Azevedo, Ivo Dias • LNEC
• Portugal

Important Notes

- The number of participants is limited to **30**
- The organisation may decide to cancel the seminar if a minimum number of participants is not achieved

Payment

Bank Transfer

Account holder: FUNDIC

NIB: 0018 0365 002000 10582 22

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SWIFT code: TOTAPTPL

Santander Totta – Bank

Largo Frei Heitor Pinto 7-A/B

1700-204 LISBOA

Please send proof of payment to damworld@lnec.pt with the participant name.

Credit Card



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at <http://dw2015.lnec.pt/registration.html>



Second International
Dam World Conference

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April 21-24, 2015



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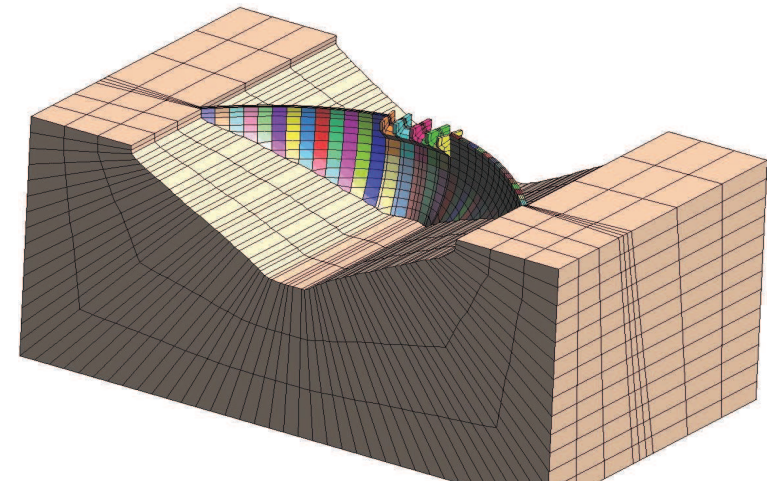
Modelling of concrete dams

Analysis of structural and foundation behaviour
and safety assessment

Seminar

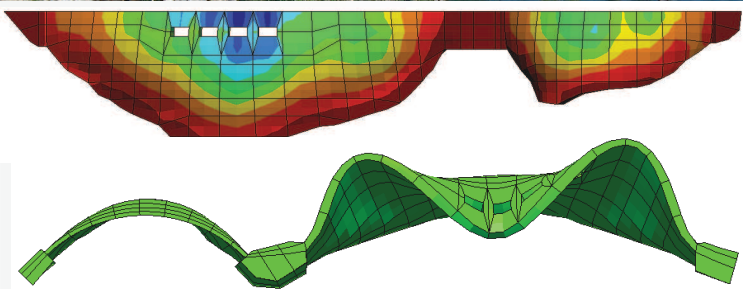


20th April 2015
LNEC • Lisbon • Portugal

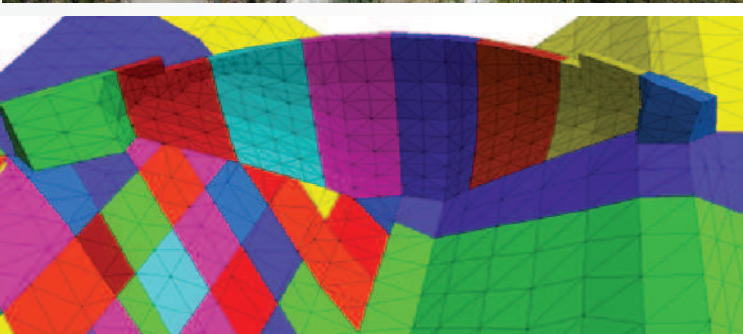


Numerical modelling of concrete dams

Chicamba dam



Alto Ceira dam



Preliminary Programme

9:00 - 9:10 **Opening**

9:10 - 9:40 **Session 1- Concrete dams & safety issues**

General concepts, safety issues, loads and analysis scenarios, evolution of modelling methods.

9:40 - 10:40 **Session 2- Structural analysis**

Finite element methods, particle models, damage models, solution strategies for nonlinear systems, strain localization, fracture.

10:40-11:00 **Coffee break**

11:00-12:00 **Session 3- Seismic analysis**

Safety evaluation under seismic loads, FE models, application of CADAM-2D and RS-DAM programs.

12:00-12:30 **Session 4- Modelling for design**

Safety and serviceability verifications, design criteria.

12:30-14:00 **Lunch**

14:00-14:45 **Session 5- Monitoring of dynamic behaviour**

Analysis of ambient vibration, forced vibration tests, dam-reservoir interaction.

14:45-15:30 **Session 6- Modelling of rock mass foundation**

Discrete element methods, rock joint models, safety assessment considering rock mass failure modes, hydro-mechanical behaviour.

15:30-16:00 **Coffee break**

16:00-16:45 **Session 7- Dam construction & thermal analysis**

Modelling of dam construction, models for early-age concrete, RCC, thermal analysis.

16:45-17:30 **Session 8- Long term behaviour**

Analysis and interpretation of monitored behaviour, modelling for safety control, creep, swelling and AAR, deterioration.

Seminar

20th April 2015

Modelling of concrete dams

Analysis of structural and foundation behaviour and safety assessment

Venue

The seminar will take place at
LNEC • National Laboratory for Civil Engineering
Lisbon • Portugal



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Conference Chair
Carlos Pina, Portugal

Organising Committee
Eliane Portela, Portugal • Laura Caldeira, Portugal
António Lopes Batista, Portugal • José Marques, Brazil
Ivo Dias, Portugal • Ricardo Santos, Portugal

Contacts

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