

## 2nd INTERNATIONAL WEEK ON RISK ANALYSIS AS APPLIED TO DAM SAFETY AND DAM SECURITY

Name(s) and Last name: \_\_\_\_\_

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WORKSHOP Simultaneous translation english-spanish.

Free attendance upon registration only.

THEORETICAL-PRACTICAL COURSE  
Language:  Spanish  English

Seating limited.

Course attendance fee: 550 Eur

Payment by bank transfer to:

BANK ACCOUNT: 2090 2832 65 0064000958  
CONCEPT: SEGURIDAD DE PRESAS  
Account holder: Universidad Politécnica de Valencia  
Bank: CAJA DE AHORROS DEL MEDITERRÁNEO  
IBAN code: ES54-2090-2832-65-0064000958  
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A copy of the bank transfer together with the registration form should be sent by 19th February by fax to:

FAX. +34 96 387 7618  
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CONTACT: Armando Serrano, arserlom@doctor.upv.es  
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Organized by:



DEPARTAMENTO  
DE INGENIERÍA  
HIDRÁULICA  
Y MEDIO AMBIENTE

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# RISK ANALYSIS AS APPLIED TO DAM SAFETY AND DAM SECURITY

Valencia, 26th-29th February 2008

## 2nd INTERNATIONAL WEEK ON RISK ANALYSIS AS APPLIED TO DAM SAFETY AND DAM SECURITY

[www.ipresas.upv.es](http://www.ipresas.upv.es)

EC-DAMSE WORKSHOP  
26th February 2008  
Main Auditorium (Paraninfo) of the  
Universidad Politécnica de Valencia, UPV

THEORETICAL-PRACTICAL COURSE  
27th-29th February 2008  
Life-long Learning Centre (CFP), UPV

Directed by: Dr. Ignacio Escuder Bueno



DEPARTAMENTO  
DE INGENIERÍA  
HIDRÁULICA  
Y MEDIO AMBIENTE



Action framed within project BIA-2006-08948. R+D National Plan 2006-2009. Science and Education Ministry of Spain.

The 1st International Week on Risk Analysis as Applied to Dam Safety, held at Universidad Politécnica de Valencia (UPV) in March 2005, made possible the sharing and discussion of a number of world experiences on the topic.

Since then, the UPV Water Resources Engineering Group has advanced in the operational and scientific aspects of such methodology, collaborated with other research and working groups, and undertaken contracts funded by private companies as well as projects funded by the Spanish Government and the European Commission.

In particular, one of the most significant contributions of this 2nd International Week on Risk Analysis as Applied to Dam Safety and Dam Security is the presentation of the results of the project entitled EC-DAMSE "A European Methodology for the Security Assessment of Dams" (European Commission. Directorate General Justice, Freedom and Security. JLS/2006/EPCIP/001), based on the application of risk analysis techniques to the evaluation of the security of dams against sabotage, vandalism and terrorist attacks.

Finally, the conclusion in Spain in recent years of the majority of the so called "First Review and General Safety Analysis Reports" and their likely influence on the planning and execution of investments in corrective action, create a stimulus to providing dam owners with new decision-making tools to help them analyse the efficiency of such expenses.

## OBJECTIVES

Main objectives of this 2nd International Week on Risk Analysis as Applied to Dam Safety and Dam Security are:

1. Review the imminent challenges related to dam safety from the viewpoint of naturally-occurring events (such as, floods or earthquakes) and human-induced events (such as sabotage, vandalism or terrorism).

2. Provide specific tools to evaluate dam safety and dam security, including criteria to evaluate corrective actions in terms of their efficiency.

3. Host a theoretical and practical seminar on risk analysis as applied to dam safety and dam security, including the use of custom-developed UPV software.

08:00h	Registration and accreditation
09:00h	Opening remarks by Juan José Moragues Terrades. President of CHJ.
09:15h	Ignacio Escuder Bueno (UPV). Application of risk analysis to dam safety and dam security. Examples.
10:00h	Massimo Meghella (CESI RICERCA). Presentation of the DAMSE project (A European Methodology for the Security Assessment of Dams) on risks associated with human actions (vandalism, sabotage and terrorism).
10:45h	Coffee break
11:15h	Manuel G. de Membrillera (UCLM). DAMSE methodology procedures description.
12:30h	Gerald Zenz (TU-Graz). Validation of DAMSE on selected hydropower dams.
13:00h	Jose Luis Utrillas (CHJ). Validation of DAMSE on selected water supply dams.
13:30h	End of session
14:30h	David Bowles (UTAH State University)/Enrique Matheu (US Homeland Security Department)/Rudolph Matalucci (Consultant)/Robin Charwood (Consultant). Comments on the DAMSE project by external reviewers.
15:30h	Massimo Meghella (Cesi Ricerca). DAMSE results: Lessons learned, future development needs and final remarks.
16:15h	Coffee break
16:30h	Invited commentators: Joaquín Andreu (CHJ), Liana Ardiles (CHD), Juan Manuel Buil (ENDESA), Enrique Cifres (ACUAMED), Juan Carlos de Cea (MMA), Jurgen Fleitz (OFITECO), Arturo Gil (IBERDROLA).
18:00h	Open commentary
18:30h	Closing Remarks by Luis Berga, President of ICOLD

February 27th, 2008. Theoretical fundamentals.

Risk Analysis as Applied to Dam Safety Fundamentals. David Bowles (UTAH State University).

Risk Analysis as Applied to Dam Security Fundamentals. Enrique Matheu (US Department of Homeland Security).

Contextualization of the case of Spain. Manuel G. de Membrillera (UCLM).

February 28th, 2008. Practical examples.

Screening a group of dams. Example: prioritization of a group of 20 Dams. Ignacio Escuder (UPV).

Complete dam analysis. Full calculation of static, seismic and hydrologic risk, including evaluation of corrective actions. Manuel G. de Membrillera (UCLM).

Detailed applications (I). Focus on dam failure consequences. David Bowles (UTAH State University).

Detailed applications (II). Focus on estimation of vulnerability. Enrique Matheu (US Department of Homeland Security).

February 29th, 2008. Computational tools.

Numerical modelling in the context of Risk analysis. Deterministic models, statistical models and expert judgement. Ignacio Escuder (UPV) and Luis Altarejos (UPV).

UPV software for risk models. DEMO version for full risk calculations. Armando Serrano (UPV).

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