



The Politecnico di Milano

### Venue

The Benchmark Workshop 2019 will be held at the Politecnico di Milano, the largest technical University in Italy with more than 44,000 enrolled students at present. The Benchmark Workshop will be hosted in the historical Milano Leonardo Campus.

Politecnico di Milano offers undergraduate, graduate and higher education courses in engineering, architecture, and design. It is ranked 1st in Italy and 9th in the World in the Civil and Structural Engineering field (QS World University Rankings 2018).

Milano is the main Italian financial city but it also represents an attraction point for designers, artists, photographers. Milano has an ancient city center with highly interesting buildings and a vivid cultural and social life, which makes it the Italian city of glamour.



The Milano skyline



The Duomo di Milano and the Galleria Vittorio Emanuele II

### General Organizer

ICOLD Committee A on "Computational Aspects of Analysis and Design of Dams"

#### Chairman

MAZZA', G. Italy

#### Vice - Chairman

ZENZ, G. Austria

#### Technical Advisory Team

RESTELLI, F.	Argentina
LOPEZ, F.	Australia
TZENKOV, A.	Bulgaria
CURTIS, D.	Canada
CHEN, S.	China
MARULANDA, C.	Colombia
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KHALIL, E. A.	Egypt
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MEGHELLA, M.	Italy
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ANDERSEN, R.	Norway
GLAGOVSKY, V.	Russia
VITHOKIN, E.	Russia
MINARIK, M.	Slovakia
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ESCUDE-BUENO, I.	Spain
ROBERTS, G.	South Africa
HASSANZADEH, M.	Sweden
MALM, R.	Sweden
GUNN, R.	Switzerland
PELECANOS, L.	United Kingdom
PERCELL, P.	United States
CARRERE, A. (HONORARY MEMBER)	France
FANELLI, M. (HONORARY MEMBER)	Italy

#### Local organizing committee (LOC)

Politecnico di Milano

Department of Civil and Environmental Engineering  
G. Bolzon, D. Sterpi, C. Jommi

ITCOLD – Italian Committee on Large Dams  
G. Ruggeri, G. Mazzà, R. Caruana, C. Cioccarì

Ricerca sul Sistema Energetico – RSE S.p.A.  
A. Frigerio, G. Faggiani, M. Meghella, M. de Nigris,  
F. de Lardere

#### Information and Registration

[icold-bw2019@polimi.it](mailto:icold-bw2019@polimi.it)



ICOLD  
International  
Commission on  
Large Dams

## 15<sup>th</sup> International Benchmark Workshop on Numerical Analysis of Dams

9<sup>th</sup> – 11<sup>th</sup> September 2019  
Milano, Italy

First call

*Preliminary information*

*Updated information on homepage:*

[www.icold-bw2019.polimi.it](http://www.icold-bw2019.polimi.it)



**POLITECNICO**  
MILANO 1863

DIPARTIMENTO DI  
INGEGNERIA CIVILE E AMBIENTALE



## General

Numerical modelling has become the indispensable and powerful tool for design and safety assessment of dams. The tremendous development of computer hardware and software over the last decades has made it possible the present extraordinary development of computer-based methods. The benchmark-workshops organized by the ICOLD Committee A since 1991 provide an excellent opportunity for engineers, researchers and operators to present and exchange their experiences and the latest developments related to the design, performance and monitoring of dams.

## Preliminary Program

**Venue:** Politecnico di Milano, Italy

### Monday, 9<sup>th</sup> September 2019

*Registration*

Theme presentations and discussion

*Welcome reception*

### Tuesday, 10<sup>th</sup> September 2019

Theme presentations and discussion

*Workshop dinner*

### Wednesday, 11<sup>th</sup> September 2019

*Technical visits to dams*



The Sforza's castle of Milano

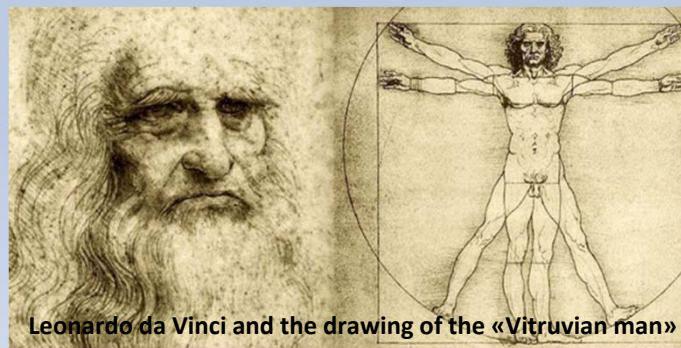
## Topics:

- Theme A:** Seismic analysis of Pine Flat concrete dam  
(Formulators: USBR, USA; KTH, Sweden; RSE, Italy)
- Theme B:** Seismic analyses of Menta Embankment dams  
(Formulator: Cassino University, Italy)
- Theme C:** Coupled hydromechanical analysis of the pre-failure and the failure behaviour of a dyke on soft subsoil (Formulator: Politecnico di Milano, Italy)
- Theme D:** Open Theme (choice of each contributor)

## Short course on numerical modelling on seismic analysis

On 12<sup>th</sup> and 13<sup>th</sup> September 2019, a short course on modern methods for nonlinear earthquake response history analysis of concrete dams will be offered by Professor Anil K. Chopra ( University of California at Berkeley) in collaboration with his research associates.

The maximum duration of the course will be one and one-half days.



Leonardo da Vinci and the drawing of the «Vitruvian man»

## Call for Contributions

This invitation is intended to announce the upcoming International 15<sup>th</sup> Benchmark Workshop on Numerical Analyses of Dams to be held in Milano (Italy) on 9<sup>th</sup>-11<sup>th</sup> September 2019 and its selected themes. Detailed information and input data to all themes will be available for participants in December 2018.

Participants intending to present a contribution to any of the topics are invited to express their interest to one or more themes within December 2018 replying to the email containing this brochure. Please include:

- Authors name, affiliation, mailing addresses, phone number of the contact person
- Theme of choice (A, B, C or Open theme)

Participants interested in attending the short course are kindly requested to communicate their intention replying to the email containing this brochure.

## Important dates

### December 2018:

*Theme proposals and detailed information about the organization of the workshop will be available on the homepage*

### January 15<sup>th</sup> 2019:

*Handout of input data for the Benchmark themes*

### February 15<sup>st</sup> 2019:

*Deadline for participants to announce their participation in themes A – D*

### May 31<sup>st</sup> 2019:

*Deadline for submission of Contributions*