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203rd session of Scientific and Technical Committee Société Hydrotechnique de France

Following the first Simhydro conference, which was focused upon uncertainties and coupling in hydroinformatics and fluid modelling, the purpose of **SIMHYDRO 2012** is to enlarge the debate on the new frontiers of simulation, with perspectives on the development of more data, of high performance computation, allowing to enrich the simulations and open the way to multiphysics, multiscale, methods, and better interaction with field or scale models data.

Again, practitioners, stakeholders, researchers and engineers will be welcome to participate. Presentations of practical studies are encouraged.

*English will be the conference language
Only Round Tables will be translated simultaneously*

Important deadlines:

Abstract submission: **November 30th, 2011**

Intention of participating in Round Tables:
January 30th, 2012

Abstract selection: **January 30th, 2012**

Full paper submission : **April 13th, 2012**

Information on the conference updated on the following website:

www.shf.asso.fr

SHF

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2nd International Conference

1st announcement and call for abstracts

SIMHYDRO 2012

New trends in simulation

Hydroinformatics & 3D modelling

Nice, FRANCE

12-14 September, 2012

www.simhydro.org

Organizing Committee:

Guy Caignaert (Arts et Métiers Paristech)
Jean Cunge (Expert)
Philippe Gourbesville (Polytech' Nice, *Chair of committee*)
Nicole Goutal (EDF)
Dominique Laurence (EDF)
Jean-Georges Philipps (SHF)
Didier Roulit (CNR)
Patrick Sauvaget (SOGREAH)
Neda Sheibani (SHF)
Pierre-Louis Viollet (EDF)



September 12th, 2012

New trends in modelling for marine, river & urban hydraulics

° Coupling of models:

- Multiscale coupling
- Multiphysics coupling
- Far & near-field coupling
- Interactions with scale models

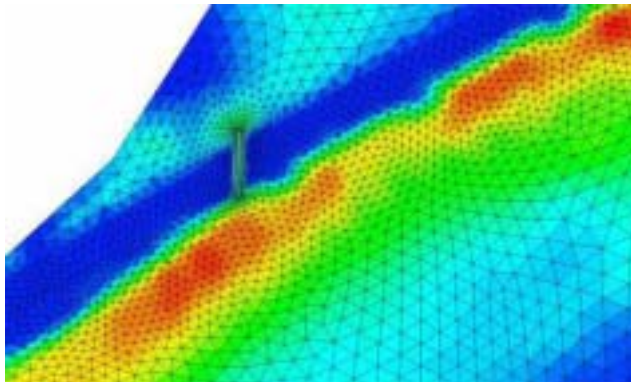
° Data & models:

How current practices are being modified by new types of data:

- Sensors networks, real-time data
- High density DEM, LIDAR and laser techniques
- Surface velocity measurements
- Progress in the use of data assimilation
- Applications to water and risk management systems

° Uncertainties and probabilistic approaches:

- Models application domains, Multi model ensembles
- Uncertainties identification and quantification, from data to results
- Post processors



September 13th, 2012

The stakeholders and practitioners of simulation

° ROUND TABLE 1: *New requirements for hydroinformatics*

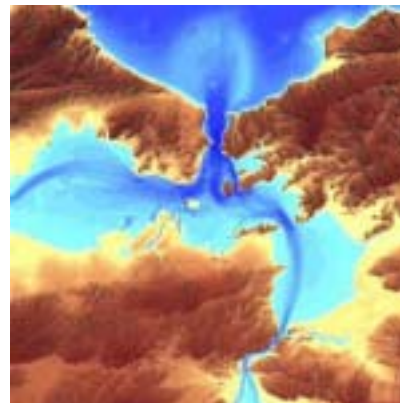
- Project owners expressions

° ROUND TABLE 2: *From simulation towards decision*

- Communication of data to stakeholders

° What perspectives for the methods and tools future?

- Development of high performance computation (HPC)
- Integration frameworks for data & models
- Cloud computing
- Software & Expertise as a Service



September 14th, 2012

3D CFD and applications

° Hydraulic machinery:

- Choice of models

° Flows in the near field of structures:

- Navier-Stokes models
- SPH and Lagrangian methods
- Free surface models

° Models for complex phenomena:

- Air entrainment
- Multiphase flows
- Interactions between flow, sediments and structures

° Models for large scale problems:

- Lakes, estuaries,.....

