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The SimHydro 2019 conference is jointly organized by the Soci1t1 Hydrotechnique de France (SHF), the University of Nice Sophia Antipolis (UNS), the Association Franeaise de M1cannique (AFM), the Environmental & Water Resources Institute (EWRI) and the International Association for Hydro-Environment Engineering and Research (IAHR).

Following the 4 past successful events in 2010, 2012, 2014 and 2017, the next SimHydro Conference will be held from 12th to 14th of June 2019 at Polytech Nice Sophia (School of Engineering) in Sophia Antipolis technopark, near Nice and Cannes - France (French Riviera).

For this new edition, the general theme of the conference will be focused on "Which models for extreme situations and crisis management? ".

The conference is mainly targeting the European audience and endeavours to collect high value papers that will be published in scientific journals and in a specific book (Advances in Hydroinformatics) with Springer like for the 3 previous editions. Over the last 4 years, the published chapters have been downloaded more than 104 000 times.

All submitted papers are going through a peer review process (2 reviews from the scientific committee) before receiving final approval for oral presentation and publication.

English will be the conference language.

Important Dates:

October 15th, 2018 : Abstract submission
December 5th, 2018 : Notifications to abstract authors
February 28th, 2019 : Full papers submission

Partners:



SimHydro2019

12th-14th June
Sophia Antipolis - Nice, France

which
models for **extreme**
& **crisis** situations
management?



1st announcement and call for abstracts
www.simhydro.org





SimHydro conferences, since 2010, have created a regular forum where major actors of the hydroinformatic domain and stakeholders meet, share and debate about needs, innovations and implementations of models and their inputs for decision making.

The various sessions of SimHydro 2019 will cover these dimensions and will offer to the participants the possibility to share and exchange with scientists, practitioners and decision makers.

Conference Venue

Polytech Nice Sophia, Campus SophiaTech
930 Route des Colles, 06903 Sophia Antipolis, France

Conference Themes:

“Which models for extreme situations and crisis management? ”

Decision-making processes and uncertainties handling.

Purposes for extreme situations and crisis management: how to choose the right model for Decision Support Systems?

Which are the main issues for extreme situations simulation?

How to improve crisis management with models and simulations? What are the uncertainties and how to address them?

Main themes of the conference

1. Hydro-environmental issues and extreme situations
2. Models for extreme situations
3. Uncertainties and data assimilation
4. Flow instabilities in hydraulics: how to deal with?
5. Crisis management and models
6. Decision Support System and models: concepts, design, challenges, implementation and operation
7. Real time management and models
8. Hydraulic structures and networks: real time operation and crisis
9. Scale models in hydraulics and their place and complementarity in simulation concepts
10. Modelling methods and tools for floods management
11. 3D two-phase flows (experiments and modelling)
12. Hydraulic machineries

Conference Preliminary Schedule

Day 1 : Free surface flows, coupled problems and (12th) hydro-environmental issues, extreme hydrological situations: droughts and floods, uncertainties.

Day 2 : Real-time monitoring and modelling for hydraulic structures (13th) and networks, flood modelling, crisis management.
Special sessions (See below)

Day 3 : 3D flows modelling and two-phase flows in hydraulic (14th) machines and industrial hydraulics, extreme hydraulic conditions modelling, flood modelling, crisis management.

Special Session 1- Catastrophe models: needs, concepts and operational implementation

The purpose of catastrophe modelling is to help communities and companies anticipate the likelihood and severity of potential future catastrophes before they occur so that they can adequately prepare for their financial impact. Insurances and reinsurance companies at the worldwide scale currently develop these approaches. Catastrophe modelling combines the four components - hazard, inventory, vulnerability, and loss - to aid insurers in making their decisions on what type of protection they can offer against a particular risk. Integration of hydroinformatics methods and tools in these approaches is a real challenge that will be discussed through examples from USA, Europe and Asia. The session will offer the possibility to various communities to exchanges on their practices and to explore further closer collaborations.hydraulic structures.

Special Session 2 - Maths & hydroinformatics: emerging approaches

In the field of environmental hydraulics, there has been a notable increase in the use of numerical models for more and more complex problems in the last ten years. This was made possible, among other things, thanks to a strong collaboration between mathematicians and hydraulic practionners. We can notice as varied applications as modelling of complex of physical processes (sludge flow, debris flows etc), real-time flood forecasting, shape optimization etc. This symposium will focus on practical illustrations of the contribution and need for mathematical techniques in the field of hydro-environmental modelling.

Special Session 3 - Models for coastal areas management

Population and economic growths, climate change, exert increasing pressures on the coastal areas. Modelling tools can provide support for the analysis of many risk situations, such as coastal submersion and coastal erosion risks, wave damages on fixed and floating structures, pollution monitoring (oil drift, dispersion of pollutants, etc.), propagation of tsunami waves, etc. Models with different approaches are adapted to different contexts: hazard and risk appraisal, damage and resilience evaluation, crisis management including evacuation of populations and help web services. As in other domains, models addressing coastal risk situations are progressively improved to produce evaluation of uncertainties regarding input data and other constraints. This session will be an opportunity to discuss all these points including the robustness and flexibility of the models.

Special Session 4 - Models for coastal areas management

Physical models are often used today in conjunction with numerical models when designing or analyzing hydraulic structures or river stretches. For some extreme situations, it's still necessary to use physical models. This is for example the case for flows with high solid transport, or when multiple and complex physical phenomena are involved. The evolution and development of sensors or measurement techniques also allow to improve the content and quality of results. The objective of this session is to illustrate, on the basis of specific projects, the advantages of these two types of modelling and their synergy. Highlight will be done especially on the benefit of the physical model / numerical model coupling

Registration Fees:

TYPE	(Before 19th May)	(After 19th May)
General fee :	400 '	500'
SHF/AIRH Members fee:	300 '	300'
Speakers fee :	300 '	400'
Student fee :	140 '	160'

Payment with the registration form or thru SHF website: www.shf-hydro.org

Contact For More Information

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