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The SimHydro 2021 conference is jointly organized by the Société Hydrotechnique de France (SHF), Université Cote d'Azur (UCA), the Association Française de Mécannique (AFM), the Environmental & Water Resources Institute (EWRI) and the International Association for Hydro-Environment Engineering and Research (IAHR).

Following the 5 past successful events in 2010, 2012, 2014, 2017 and 2019, the next SimHydro Conference will be held from 16th to 18th of June 2021 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 "Models for complex and global water issues - Practices and expectations".

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 4 previous editions. ***Over the last 5 years, the published chapters have been downloaded more than 150 000 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.

Submit your abstract on EasyChair:
https://easychair.org/conferences/?conf=simhydro2021

Important Dates:

October 17th, 2020	: Abstract submission
December 7th, 2020	: Notifications to abstract authors
March 1st, 2021	: Full papers submission

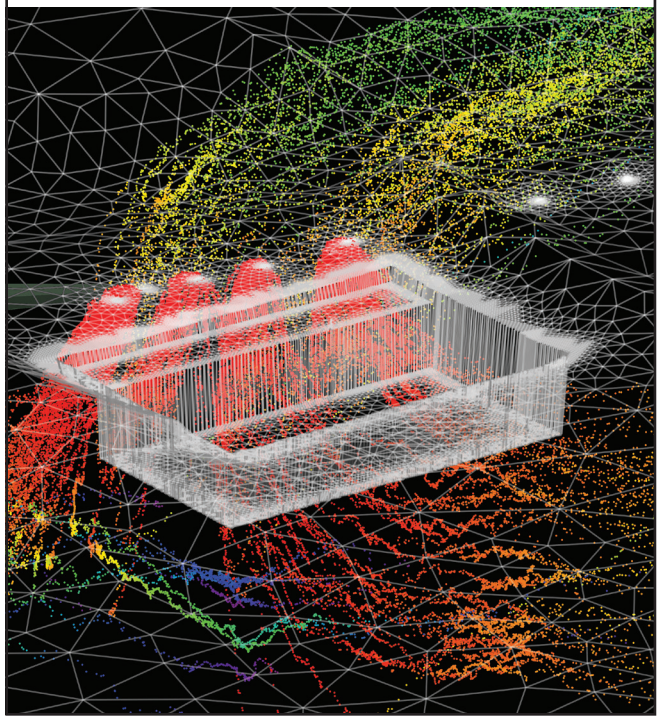
Partners:

ARTELIA · CNR · EDF · GIS-HED · Pôle EAU · AFM

SimHydro2021

16th-18th June
Sophia Antipolis - Nice, France

MODELS for complex & global water issues
PRACTICES AND EXPECTATIONS



1st announcement and call for abstracts

www.simhydro.org

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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 2021 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:

"Models for complex and global water issues - Practices and expectations"

- Decision-making processes and uncertainties handling.
- Purposes for modelling: how to choose the right model for complex problems? What are the expected results?
- How to improve current modelling practices?
- What are the uncertainties and how to address them?

Main themes of the conference

01. Hydro-environmental issues and extreme situations
02. Uncertainties and data assimilation
03. AI solutions for water
04. Intensive computing for hydraulic simulations
05. Extreme in hydraulics: how to deal with?
06. Decision Support System and models: concepts, design, challenges, implementation and operation
07. Real time management and models
08. Hydraulic structures and networks: real time operation
09. Scale models in hydraulics and their place and complementary in simulation concepts
10. Modelling methods and tools for floods management
11. 3D multi-phase flows (experiments and modelling)
12. Hydraulic machinery
13. Diphasic flows and cavitation
14. Modelling in ecohydraulics and morphology

Conference Preliminary Schedule

Day 1 (16th) : Free surface flows, coupled problems and hydro-environmental issues, extreme hydrological situations: droughts and floods, uncertainties.

Day 2 (17th) : Real-time monitoring and modelling for hydraulic structures and networks, flood modelling.
Special sessions (See below)

Day 3 (18th) : 3D flows modelling and two-phase flows in hydraulic machines and industrial hydraulics, extreme hydraulic conditions modelling.

Special Session 1 - Emerging approaches & expectations.

In the field of environmental hydraulics and fluid mechanics, there has been a massive increase in the use and implementation of numerical models for addressing complex and sophisticated problems over the last decade. This trend is supported by several factors such as progresses in numerical methods, better understanding of multi-physic processes, availability of computational resources and maturity of tools such as AI solutions. The new approaches can be focused on complex physical processes modelling and on real-time operation. The session will bring practical illustration and will collect feedback from practitioners and decision makers from various fields.

Special Session 2 - Water Europe: Hydroinformatics for water resources and water related hazards management in Europe.

Within the Erasmus+ framework, the objective of the Water Europe project is to develop a unique set of pedagogic resources dedicated to the implementation of hydroinformatic solutions (numerical modelling tools) for water resources and water related hazards management at the European scale. This set of resources (course material, exercises, data sets, modelling environment integrating numerical models and communication services) is jointly elaborated by the 6 project partners located in Europe. The development of the resources and their innovative use has allowed promoting to young professionals new approaches for water resources and water related hazard management. Most important, the practice gained through these training modules contributes to increase competences and professional skills of young engineers in charge water resources at the international scale. https://watereurope.aquacloud.net

Special Session 3 - Advanced models for off-design analysis of hydraulic machines, including cavitation effects.

The use of Computational Fluid Dynamics is nowadays widely used by manufacturers for the design for Hydraulic Machines (pumps, turbines, pump-turbines) with more and more extended operating conditions. Various types of physical phenomena, such as stalls, reverse flows, unsteadiness or cavitation can occur during the machines life and that has to be taken into account as accurately as possible during the design phases. During the session, the opportunity will be given of exchanges regarding the choices of CFD hypothesis, CFD models and uncertainties evaluations of numerical results. Experimental validations at pertinent time and space scales will also be of interest.

Special Session 4 - Flash floods management: from models to decisions.

A flash flood is a sudden local flood of great volume and short duration which follows within a few (usually less than six) hours of heavy or excessive rainfall, or due to dam or levee failure, or the sudden release of water impounded by an ice log jam. Public technical agencies are not always able to ascertain which areas are susceptible to flash floods. This is why it is essential to recognize the factors which may have an effect on the possibility of a flash flood on a given terrain. The objectives of this session are dedicated to share international experience regarding flash flood processes analysis, hydrological and hydraulic modelling, damages assessment and efficiency of mitigation actions. Following presentations, the interactive session will try to establish a list of good practices (from modelling to policy) and recommendations for resilience improvements.

Registration Fees:

TYPE	(Before 19th May)	(After 19th May)
General fee :	490 €	540 €
SHF/AMF/AIRH Members fee:	300 €	300 €
Speakers fee :	300 €	400 €
Student fee :	180 €	180 €
2 days :	380 €	440 €
Dinner :	60€	60 €

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

Contact For More Information

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