

NINTH INTERNATIONAL CONFERENCE
ON FLUVIAL HYDRAULICS
River Flow 2018
LYON-VILLEURBANNE, FRANCE
SEPTEMBER 5-8, 2018



Key dates :

- Abstract submission: September 30, 2017
- Paper submission: January 31, 2018
- Masterclasses application: March 31, 2018
- Early bird registration: May 31, 2018

Conference Themes

A/ River morphodynamics and restoration

1. From braiding to meandering rivers
2. Large river bedforms
3. Steep rivers, systems of step-pools
4. Interactions between flow, sediment and vegetation
5. River management and ecology, river restoration

B/ Hydraulic structures and their effects on bed, flow regime and ecology

1. Scour around structures, impact on ecology
2. Bank erosion and protection
3. Dams and rivers: sedimentation, regulation, restoration, removal
4. Fishways
5. Inland navigation

C/ Sediment and pollutant dynamics in rivers

1. Sediment supply and management at catchment scale
2. Fine sediment and associated pollutant dynamics
3. Impact of bedforms on the flow and particle suspension
4. In-situ measurements and modelling of the sand dynamics
5. Bedload dynamics of a sediment mixture

D/ Fluid Mechanics and sediment processes

1. Mixing processes
2. Laboratory experiments and innovative measurement methods
3. Mechanics of sediment transport
4. Advanced computational methods for fluid mechanics, sediment transport, and morphodynamics
5. Physical models

E/ Extreme events

1. Flooding processes and compound channels
2. Management of hydrological extremes: floods and droughts
3. Urban flooding
4. Innovative in-situ measurements of flow discharge
5. Computational methods and code calibration for rare events

MASTER CLASSES

The masterclasses will be held at the Lyon-Villeurbanne Centre of the National Research Institute of Science and Technology for Environment and Agriculture (Irstea). The Irstea Centre's major research goals involve improving water resource management including droughts and floods, and reducing pollutant and toxic waste impact on aquatic ecosystems. A recently-built laboratory in hydraulics and hydromorphology is dedicated to the study of free-surface flow processes such as urban flood processes, transport of a mixture of fine and coarse sediments, and overbank flows in a compound channel.

Masterclass topics:

- Measurement techniques: laboratory and field experiments
- Numerical modelling: unsteady flow, sediment transport, and bed evolution
- Turbulence and mixing processes
- Impact of vegetation on flow and sediment processes
- River morphology and morphodynamics
- River restoration: links between morphology and habitats
- Flood Hazard Modelling

TRAINING COURSE ON STREAM GAUGING

The 5th IAHR-WMO-IAHS Training Course on Stream gauging is intended to be held as part of the RiverFlow 2018 conference, with separate registration. Three days will be dedicated to Hydrometry basics, Field and classroom exercises and Recent advances (technology and uncertainty analysis), by internationally recognised lecturers. The audience will be students and professional field hydrologists.

TECHNICAL TOUR

France's leading supplier of 100% renewable energy (hydroelectricity, solar and wind energy), CNR has built and now operates the hydroelectricity developments on the Rhône river with three inter-related missions: production, navigation, and irrigation and other agricultural uses. Two visits will be proposed on Saturday, September 8th:

- The Belley development: Located half way between Lyon and the Swiss border, the Belley development was brought into service in 1982. Recently, locks, a marina and a small hydroelectricity power plant have been added to the existing structures. Riverbed restoration works have also been carried out.

- The Bourg Lès Valence development: Brought into service in 1962, the development is located in the south of Lyon. The River Isère, on the left bank, calls for special management of flood flows and sediments. The Small Hydroelectricity Power Plant at Pouzin, fitted with fish passes, and the Rhône riverbed restoration works illustrate the CNR's efforts in the area of the environment and territorial development.



<http://riverflow2018.irstea.fr>

Contact

e-mail: riverflow2018@irstea.fr