

River Flow 2018

NINTH INTERNATIONAL CONFERENCE ON FLUVIAL HYDRAULICS

**LYON-VILLEURBANNE, FRANCE
SEPTEMBER 5-8, 2018**

About the conference

River Flow has become since 2002 a major international conference in river engineering and fluvial hydraulics. It is a unique occasion to present and discuss the latest scientific researches, and to communicate with scientists, engineers, and researchers involved in areas such as fluvial flow and structure processes or sediment transport.

River Flow 2018 will focus on the latest findings in the field of fluvial hydraulics, addressing fundamental issues related to fluid processes of sediments and pollutants transport in rivers. More practical issues related to river morphodynamics, river restoration, and river interaction with structures will be discussed. Finally, a specific theme on extreme events (flood, drought) is proposed.

Several masterclasses dedicated to graduate students and young researchers will be organized and led by recognized international experts on topics in hydrodynamics, mixing, morphology, flood hazard and sediment transport.

Note that English is the official language for the conference and the masterclasses.

Important Dates

Abstract submission: **September 30, 2017**

Paper submission: **January 31, 2018**

Masterclasses application: **March 31, 2018**

Early bird registration: **May 31, 2018**

Conference Website

All information presented in this leaflet may be subject to change.

Please consult the conference website <http://riverflow2018.irstea.fr> for the latest version.

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

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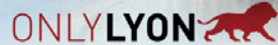
Scientific Committee

The scientific committee will review the papers submitted to the conference. It includes more than 50 researchers from more than 20 countries.

Local Organizing Committee

The conference is co-organized by the National Research Institute of Science and Technology for Environment and Agriculture (Irstea) at Lyon-Villeurbanne, INSA Lyon, Laboratory of Fluid Mechanics and Acoustics (LMFA), Compagnie Nationale du Rhône (CNR), and Société Hydrotechnique de France (SHF).

Chair:	André Paquier	Irstea
Co-Chairs:	Nicolas Rivière Didier Roult	INSA Lyon - LMFA CNR
Members:	Céline Berni Benoît Camenen Anna Dupont Jean-Baptiste Faure Jérôme Le Coz Diego Lopez Emmanuel Mignot Lionel Pénard Sébastien Proust Neda Sheibani Ivana Vinkovic	Irstea Irstea SHF Irstea Irstea INSA Lyon - LMFA INSA Lyon - LMFA Irstea Irstea SHF LMFA



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Conference venue

Lyon is the second university city in France. Within Lyon Université, Université Claude Bernard and several engineering schools (INSA, ECL, ENTPE) dedicate part of their teaching/education to fluvial hydraulics for which research is particularly developed in LMFA, Irstea and CNR that own specific hydraulics facilities.

The rivers have always been a major importance in the history of Lyon. The historical center, 2000 years old UNESCO world heritage architecture, is grouped around Fourvière hill, on the border of the River Saône. The more modern districts are spread along both sides of the Rhône and Saône Rivers. A new district is being built in the heart of the city at the confluence between these two rivers. Lyon, known as the capital of gastronomy, is also famous throughout the world by its « chefs » and the wines of the surrounding regions. With more than 10,000 hotel rooms, Lyon will be happy to welcome you. Fast trains connect the city centre with Brussels, London and Paris and Lyon airport is connected with more than 40 cities in Europe and beyond.

River Flow 2018 will be held at Espace Tête d'Or, 103 Boulevard de Stalingrad, 69100 Villeurbanne. This convention center is located on the border of Lyon's famous park Tête d'Or, just 15 minutes away from the central railway station Lyon Part Dieu. It is located only 1km away from two of the hosting institutions Irstea (where the masterclasses will be held) and INSA Lyon.

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.

Conference dates

Masterclasses: September 4, 2018 (at Irstea).

Conference : September 5 to 7, 2018 (at Espace Tête d'Or)

Technical visit: September 8, 2018

Masterclasses

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. The three first courses were held in Brescia (Italy, 2011), Andong (Korea, 2013) and Hanoi (Vietnam, 2014).

The 4th course is scheduled to be held in Queenstown, New Zealand (Nov. 29 - Dec. 1, 2016) as a special session of joint conference for 56th New Zealand Hydrological Society (<http://www.nzhs2016.co.nz/>) & 37th Australian Hydrology and Water Resources Symposium.

For sponsoring River Flow 2018 conference, proposing exhibition or any information about the conference, please contact riverflow2018@irstea.fr

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Supported by
Spain Water
and IWHR, China



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