Colloque HydroES 2025

Hydropower and Environmental Sustainability

"Hydropower, Innovation & Resilience"

17-18-19 September 2025 in Grenoble

Call for papers

Presentation

The HydroES 2025 symposium is part of a series of conferences organized by the « Société Hydrotechnique de France » (SHF) for the past fifteen years with many French and European partners and sponsors. Its 8th session will focus on "**Hydropower, Innovation & Resilience**".

Despite the strong growth of wind and photovoltaics, hydroelectricity remains the leading renewable energy source in terms of production. It produces nearly two-thirds of the world's low-carbon electricity. Hydropower facilities thus contribute to the reduction of the impacts of climate change, including extreme events, floods and droughts, which tend to be increasingly exacerbated. It is a local energy, which cannot be relocated, anchored in the territories and its facilities play a key role in the management of water resources for the satisfaction of multiple uses such as drinking water supply, irrigation, navigation, tourism, and in the management of the electricity system through its flexibility. It makes it possible to compensate for the intermittency of other renewable energies and to stabilise the network in the event of the fortuitous unavailability of another means of production.

Hydropower must therefore respond to multiple technical, societal and environmental issues and challenges. We must continually innovate to seek the best balance, to reconcile the various uses, to preserve aquatic environments and biodiversity, to adapt to climate change, and putting science, societal services and the living at the heart of the debates.

Thematic

This symposium is aimed at all players in the water and hydropower (scientists, academics, institutions, industrialists and engineering). It will be organized in 4 sessions:

- **Session 1: Climate change (Adaptation & Mitigation):** *pressures on water resources (melting glaciers, water temperature, drought, etc.), resilience strategies in face of extreme events, revision of engineering practices in project design, technological innovation, etc.*

- **Session 2: Energy transition and water resource management**: *Energy efficiency, new hydrometeorological forecasting tools, optimization of water production and resources, flexibility and role of hydropower in the energy mix,* reduction of the carbon footprint and *role of hydropower (gravity development and WWTP) in the energy transition, marine energies, Reconciling uses and consultation, the solutions of the future, etc.*

- **Session 3: digital transformation and modernization of O&M** : *evolution of O&M practices (remote control of development chains, plant 4.0, digital twins, etc.), role of new sensors,*

existing communication protocols for facility monitoring and environmental monitoring, new generation of modeling systems capable of integrating new data sources, artificial intelligence (IA) and Big Data: best practices for operational implementation and decision support...

- **Session 4: Issues and challenges of the hydroelectric fleet:** *ageing of structures and equipment, sediment management, fish farming continuity, new legal, environmental and social constraints, etc.*

- **Technical visits: the last day will be devoted to one or more technical visits**

Calendar:

- **November 15, 2024**: deadline for submission of abstracts (1 to 2 pages): SHF link to submit abstracts
- **April 15, 2025**: deadline for submission of articles (8 to 10 pages) (after acceptance of abstracts).

Abstracts and articles can be written in French or English.
A selection of the best contributions will be published in ***LHB: Hydroscience Journal***

Steering Committee:

Ahmed KHALADI (CNR &SHF), Olivier BERTRAND (Arteliagroup), Aurèlie DOUSSET (France Hydro Electricité), Jean Jacques FRY (CFBR – ETIP HYDROPOWER), Bettina GEISSELER (GEISSELER Law Firm), Benoit HOUDANT (EDF), Olivier METAIS (SHF), Cécile MÜNCH-ALLIGNE (HEVS), Virginie ORFILA (DG SHF), Pierre-Louis VIOLLET (SHF), Olivier PIERRE (CNR), Laetitia BALARAC (GE Renewable Energy), Elena VAGNONI (EPFL), Maryse FRANCOIS (ENR consultant).

SPONSORS & PARTNERS

150 to 200 participants are expected at the HydroES 2025 conference. A time of expression and exchanges with the participants will be devoted to the sponsors and partners of the symposium. In addition, **an exhibition area** can be organized for companies that are interested in presenting their know-how.
Your support is essential to us, do not hesitate to join our sponsors, partners and *exhibitors: for more information contact the SHF:* dg@shf-hydro.org or +33 6 75 00 61 87