

2018 Training sessions

Fluids Mechanics • Acoustic • Vibrations



Editorial



Robert Laborde
General Director

Hydraulics is a **transversal discipline**, omnipresent in all fields of industry, science and technology. Thousands of professionals from wide to specialized fields often deal with hydraulic and **master this discipline** determines the **success of their studies**.

For more than fifty years, CERG has been training professionals in hydraulics. Over the years, CERG has improved its **know-how** (experimental and numerical studies, expertise, dimensioning and design, measurements, tests...) but also the **trainers pedagogy**.

This reputation for excellence brings us to meet you. To meet your expectation, we develop training courses **ever more adapted to your needs**, more numerous and richer each year. Our staff's skills and experience allowed us **to remain a reference** in the hydraulic training market.

You don't come at CERG by accident and the result you are waiting for is right on time!

What's new ?

- Two news training sessions** : Multiphase flows, Water Turbine
- Visioconferencing**
- Online knowledge evaluation**

H1 Closed-conduit flow initiation

Basic knowledge of closed-conduit hydraulic and its practical application to flow in pipes : pumps or control valves...

Date and place : Le Pont de Claix (38)
From 19 to 23 March 2018 (W12) / From 01 to 05 October 2018 (W40)

Price : at CERG or by videoconferencing
2 200 € excl. taxes. *(this price includes lunch meal for on-site training sessions)*

H2 Free surface flow initiation

Basic knowledge of hydraulic and its practical application to free surface flows : channels, rivers, torrents, sewage inlet or outlet, hydraulic works...

Date and place : Le Pont de Claix (38)
From 10 to 14 September 2018 (W37)

Price : at CERG or by videoconferencing
2 200 € excl. taxes. *(this price includes lunch meal for on-site training sessions)*

H3 Pumps and water hammer

Mastering good practices of installation and pump using. Knowing the specificities of transient flows, analyzing generated risks and choosing appropriate protections.

Date and place : Le Pont de Claix (38)
From 28 to 31 May 2018 (W22) / From 03 to 06 December 2018 (W49)

Price : at CERG or by videoconferencing
2 200 € excl. taxes. *(this price includes lunch meal for on-site training sessions)*

H4 Pumps

Mastering good practices of installation and pump using.

Date and place : Le Pont de Claix (38)
From 28 to 29 May 2018 (W22) / From 03 to 04 December 2018 (W49)

Price : at CERG or by videoconferencing
1300 € excl. taxes. *(this price includes lunch meal for on-site training sessions)*

H5 Water hammer

Knowing the specificities of transient flows, risk analysis and choice of appropriate protections.

Date and place : Le Pont de Claix (38)
From 30 to 31 May 2018 (W22) / From 05 to 06 December 2018 (W49)

Price : at CERG or by videoconferencing
1300 € excl. taxes. *(this price includes lunch meal for on-site training sessions)*

H6 Pumping stations

Definition of the main principles about pumping stations design, especially in the case of major energy plant projects. Understanding the constraints linked to the site but also to the process. Defining the main design rules for each pumping station stages (from inlet to outlet)

Date and place : Le Pont de Claix (38)
From 08 to 11 October 2018 (W41)

Price : at CERG or by videoconferencing
2 000 € excl. taxes. *(this price includes lunch meal for on-site training sessions)*

H7 Hydraulic turbines

Basic knowledge of hydraulic and its application to a closed-conduit flow. Understanding how different hydraulic turbines work. Understanding phenomena related to transient flows and those causing degradation on penstocks and turbines. Ensuring hydraulic units protection.

Date and place : Le Pont de Claix (38)
From 17 to 19 September 2018 (W38) / From 26 to 29 November 2018 (W48)

Price : at CERG or by videoconferencing
3 000 € excl. taxes. *(this price includes lunch meal for on-site training sessions)*

H8 Multiphase flows

To deal with the specificities of two-phase and multiphase flows and understand the constraints and complications brought by the presence of different phases in industrial flows. Liquid-solid, liquid-gas and gas-liquid flows as well as liquid cases are addressed in the hypothesis of no phase change. Industrial processes associated with these themes are also discussed.

Date and place : Le Pont de Claix (38)
From 20 to 22 November 2018 (W47)

Price : at CERG or by videoconferencing
1 700 € excl. taxes. *(this price includes lunch meal for on-site training sessions)*

H9 Water turbines

In the renewable energies field, deal with the particular case of water turbines. Basic knowledge of this type of machine : the basic theory and the main variants. Integrate this knowledge into the Fluid Mechanics field. To understand issues and specificities of these machines for applications at sea or river, in a field or isolated. To get objective data on potentials and returns.

Date and place : Le Pont de Claix (38)
From 25 to 27 September 2018 (W39)

Price : at CERG or by videoconferencing
1700 € excl. taxes. *(this price includes lunch meal for on-site training sessions)*

BVE Noise and vibration related to flows

Knowledge of the parameters influencing noise and/or vibrations of hydraulic or aerodynamic circuits. Master design rules and improvement solutions.

Date and place : Le Pont de Claix (38)
From 12 to 14 June 2018 (W24)

Price : at CERG or by videoconferencing
1700 € excl. taxes. *(this price includes lunch meal for on-site training sessions)*