The summer school provides all the basics of computational fluid dynamics (CFD) for energy applications analysis. This need arises from the ever-increasing central role that CFD has reached in the R&D offices worldwide, being very often used in a synergy with experimental and theoretical approaches.

**LECTURERS**

- Prof. F. Bassi. University of Bergamo
- Dr. A. Colombo. University of Bergamo
- Dr. P. Congedo. INRIA Bordeaux
- Prof. A. Ghidoni. University of Brescia
- Prof. A.M. Lezzi. University of Brescia
- Prof. P. Poesio. University of Brescia
- Dr. M. Pini. TU Delft
- Prof. S. Radl. TU Graz
- Prof. S. Rebay. University of Brescia

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**MORE INFORMATION AT**
cfdsummerschool.unibs.it

**REGISTRATION**

The participation to the school is free of charge. For registration:
cfdsummerschool@unibs.it

Deadline: August 30th, 2018

The Summer School is promoted by the DRIMI PhD course of the University of Brescia and is aimed at Academia (graduate and PhD students) and industry.

**With the support of**

1st INTERNATIONAL SUMMER SCHOOL

INTRODUCTION TO CFD FOR ENERGY APPLICATIONS

September 3-7, 2018
Palazzo Todeschini
Desenzano del Garda (BS), Italy
The lectures will describe and discuss most relevant topics in CFD: the generation of the computational mesh (generation methods, quality criteria and main open-source software), physical modeling (turbulence models, multiphase models) and numerical methods (finite volume method, segregated/coupled methods, steady and unsteady problems).

The course will also deal with frontier topics, such as the uncertainty quantification and shape optimization based on genetic and adjoint methods.

During the summer school a Workshop will be organized, where R&D offices of some companies operating in the energy field will bring their experience in the use of CFD software during the design.

Preliminary suggested readings

- Essential Computational Fluid Dynamics, O. Zikanov, Wiley, 2010
- Review of design optimization methods for turbomachinery aerodynamics, Z. Li, X. Zheng, Progress in Aerospace Sciences, 93, 201