Università degli Studi di Pavia
Dipartimento di Ingegneria Civile e Architettura

SEMINAR

Recent advances on reduced order modelling for viscous and thermal flows in parametrized settings: focus on stability and bifurcations

Some recent developments of reduced order modelling (ROM) in computational fluid dynamics (CFD) for viscous incompressible flows will be discussed. The main topics will deal with the use of combined ROM techniques currently available, efficient sampling procedures, inf-sup pressure stabilization for ROM approaches, error bounds, computational performances. Spectral elements method is used for basis generation. Some emphasis will be given to the stability of flows and steady and Hopf bifurcations and numerical techniques for their detections with reduced order models. Numerical results will be applied to classical benchmarks study cases and to the Coanda effect in cardiac blood flow simulation as guideline and perspective current application.

Prof. Gianluigi Rozza
SISSA mathLab – Trieste

October 24, 11:15am (sharp)
DICAR MS1 Meeting Room
Via Ferrata, 3 – Pavia