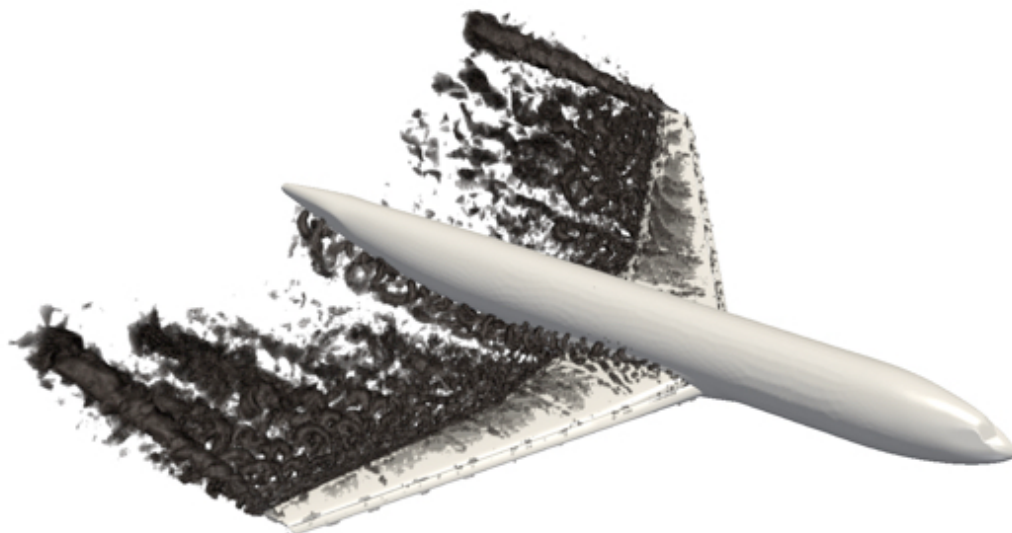


Summer School on Advanced Computation in Fluid Mechanics

New Theory of Flight

June 29 - July 1, 2016

BCAM - Basque Center for Applied Mathematics
Mazarredo 14, Bilbao, Basque Country, Spain



The general aim is that the students should learn to analyse and use adaptive finite element technology to model fluid dynamics at high Reynolds numbers. After the course the students should be able to:

- * account for the concepts of weak solution and weak uniqueness
- * derive energy estimates for the underlying equations and DFS approximations
- * derive a posteriori error estimates for output in DFS by means of duality
- * analyse the global effect of skin friction boundary conditions in DFS computations
- * use FEniCS software for adaptive flow computations with error control.

The main focus of the course is high Reynolds number incompressible flow and the following fundamental problems:

- turbulence
- flow separation
- generation of drag and lift in aerodynamics with applications in a multitude of domains, such as vehicle, ship and aircraft aerodynamics, aerodynamics of ball sports, and flow in urban environments.

Organizers and lecturers:

Johan JANSSON (BCAM and KTH)
Johan HOFFMAN (KTH and BCAM)

<http://www.bcamath.org/en/workshops/ntf>