

Proposal of Organization of Thematic Session

Thematic Session: **ST 07 Computational Fluid Dynamics**

Organizers (in alphabetic order):

Antón, R. (TECNUN – University of Navarra)

Larraona, G. S. (TECNUN – University of Navarra)

Ramos, J. C. (TECNUN – University of Navarra)

Rivas, A. (TECNUN – University of Navarra)

Summary:

Computational Fluid Dynamics (CFD) is the use of numerical methods to solve and analyze systems involving transport phenomena (fluid flow, heat transfer and chemical reactions) by means of computer-based simulations. This technique is very powerful and covers a wide range of industrial and non-industrial application areas, such as aerodynamics and hydrodynamics, turbomachinery, electronics cooling, chemical processes and combustion, HVAC, environmental engineering, bioengineering, hydrology and oceanography.

The aim of this thematic session is to present the latest advances in both the development and implementation of new numerical techniques and the application of customary techniques for solving problems in the vast span of engineering areas covered by CFD.

The topics included in this session extend, but are not limited, to numerical methods in discretizing and solving governing equations, verification and validation of numerical solutions, turbulence modeling (RANS, LES, DES, DNS), Multiphase flow and Fluid Structure Interaction (FSI).