



# Introduction to ERCOFTAC and its Knowledge Base in the area of Flow, Turbulence and Combustion

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# What is ERCOFTAC ?

ERCOFTAC (European Research Community on Flow, Turbulence and Combustion) is an International Association with Scientific Objectives according to Belgian law created in 1988.

## **The main objectives of ERCOFTAC are:**

- to promote joint efforts of European Research Institutes and Industries who are active in all aspects of Flow, Turbulence and Combustion, with the object of exchanging technical and scientific information concerning basic and applied research and the development, validation and maintenance of numerical codes and databases;
- to promote centres, called *ERCOFTAC Pilot Centres (PC's)*, in many European countries to act as centres for collaboration, stimulation and application of research;
- to promote industrial application of research by means of novel kinds of collaborations between industry, governments, professional societies and research groups;
- to stimulate, through the creation of *Special Interest Groups (SIG's)*, well-coordinated European-wide research efforts on specific topics in flow, turbulence and combustion;
- To stimulate the creation of advanced training activities in all fields related to flow, turbulence and combustion.



# Structure of ERCOFTAC

- Members are institutions/companies
- *Managing Board* representing the members
- *Executive Committee* – Board officers for running daily business
- *Scientific Programme Committee (SPC)*
  - recommends research goals and proposes/monitors special activities
- *Industrial Advisory Committee (IAC)*
  - advises the Board on matters of industrial relevance – promotes relations with industry
- *Administration and Development Office* (Brussels)
  - management of members/finances, contacts with EU, helping with EU-proposals etc.
- *Coordination Centre* (EPFL Lausanne)
  - Promotion of Association, Bulletin, Contact with PC's and SIG's, Support of meetings



# Pilot Centres

ERCOFTAC Pilot Centres are composed of ERCOFTAC members in a region or a country and coordinate the research in Flow, Turbulence and Combustion on a regional or national scale, organize local events (e.g. Technology Days), give local support to Special Interest Groups (SIGs)

## The following Pilot Centres exist

Austria-Hungary-Slovenia

Belgium

Czech Republic

France Henri Bénard

France South

France West

Germany North

Germany South

Germany West

Greece

Iberian East

Iberian West

Italy

Nordic

Poland

Switzerland

The Netherlands

United Kingdom



# Special Interest Groups

- SIG's are composed of ERCOFTAC members working together on a well defined specific topic on Flow, Turbulence and Combustion.
- Activities of Special Interest Groups are
  - Organizing Workshops
  - Comparison of Codes
  - Exchange of Research Results
  - Creation of Experimental and/or Numerical Data Bases
  - Organization of Courses
  - etc.
- SIG's are associated with Pilot Centres and have an international organizing/steering committee
- SIG's can be nuclei of European projects



# SIG's exist presently on the following topics

- SIG 1: Large Eddy Simulation
- SIG 4: Turbulence in Compressible Flows
- SIG 5: Environmental CFD
- SIG 10: Transition Modelling
- SIG 12: Dispersed Turbulent Two Phase Flow
- SIG 14: Stably Stratified and Rotating Turbulence
- SIG 15: Turbulence Modelling
- SIG 20: Drag Reduction and Flow Control
- SIG 24: Variable Density Turbulent Flows
- SIG 28: Reactive Flows
- SIG 32: Particle Image Velocimetry
- SIG 33: Transition Mechanisms, Prediction and Control
- SIG 34: Design and Optimization
- SIG 34: Design Optimization
- SIG 35: Multipoint Turbulence Structure and Modelling
- SIG 36: Swirling Flows
- SIG 37: Bio-Fluid Mechanics and Heat Transfer
- SIG 38: Microfluidics and Micro Heat Transfer
- SIG 40: Smoothed Particle Hydrodynamics
- SIG 101: Quality and Trust in Industrial CFD



# Products and Services

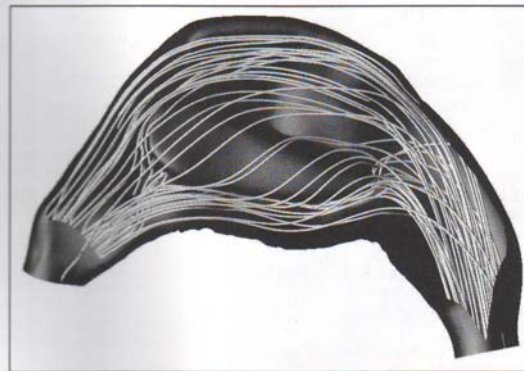
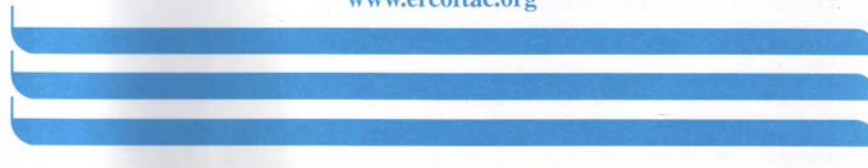
- Bulletin
  - News from ERCOFTAC, PC and SIG Reports and Activities
  - Meeting announcements & reports, member contributions
  - Every second issue devoted to special theme
- Journal of Flow, Turbulence and Combustion, Springer
- ERCOFTAC book series, Springer
- Best Practice Guidelines
- Conferences/ Workshops/ Summer Schools
  - ETMM7 in Cyprus June 2008
- Data Bases
- Knowledge Base taken over from European QNET-CFD project





*European Research Community On Flow, Turbulence And Combustion*

[www.ercotac.org](http://www.ercotac.org)



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European Research Community  
On Flow, Turbulence  
And Combustion

Special Interest Group on  
"Quality and Trust in Industrial CFD"

## Best Practice Guidelines



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