

Registration

www.ercoftac.org

Location

GE Global Research Centre
Freisinger Landstrasse 50
D-85748 Garching b. Munich
Germany

The GE Global Research centre is located on the outskirts of Munich with excellent access to the centre and Munich Airport by the autobahn, ring road and train networks.



Seminar fees

€640 ERCOFTAC members
€995 Non-ERCOFTAC members

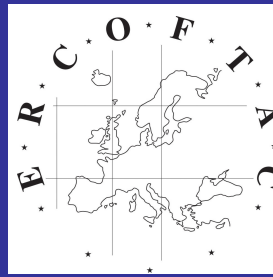
This fee includes: seminar registration, seminar material, lunch, refreshments and seminar dinner. Please note that accommodation is not included in this fee.

Registration

Please contact Dr. Richard Seoud at the earliest opportunity to reserve a place:

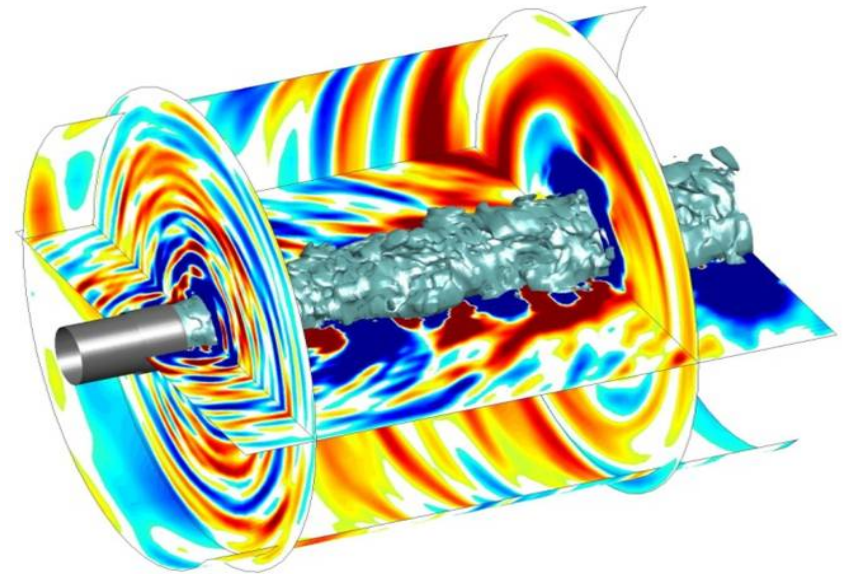
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For further information : www.ercoftac.org



Computational Aeroacoustics

www.ercoftac.org



Course Coordinator: Prof. Christophe Bailly

30-31 October 2012

GE Global Research Centre,
Munich, Germany

Information

ERCOFTAC, a leader in applied fluid mechanics, is proud to announce a two day course on 'Computational Aeroacoustics'

This course is intended for researchers in industry and in academia including Ph.D. Students with a good knowledge in fluid mechanics, who would like to build up or widen their knowledge in the field of aeroacoustics (modeling, computational tools and industrial applications). It will first provide a comprehensive overview of recent insights of aeroacoustics theories (practical applications of Lighthills analogy and vortex sound, Goldsteins analogy, and coupling with instability waves).

A number of practical problems involving the coupling between CFDs results and CAA will be also thoroughly discussed (e.g. how design a mesh sie for aeroacoustics simulations using large eddy simulation, inclusion of mean flow effects via hybrid formulations such as APE, presence of surfaces,...) and realistic applications performed by the instructors (aeronautics, car industry, propulsion, energy,...) will be analysed. Moreover, advanced computational aeroacoustics methods will be presented, as well as what we can learn from the direct computation of aerodynamic noise. Specific topics reflecting participant interests will be discussed in a final round table session.

Lecturers

Prof. Anurag Agarwal, University of Cambridge, UK

Prof. Christophe Bailly, Ecole Centrale de Lyon, France

Dr Christophe Bogey, Ecole Centrale de Lyon, France

Prof. Christophe Schram, Institute von Karman, Belgium

Prof. Wolfgang Schroder, Institute of Aerodynamics, Aachen, Germany

Dr. Gwenael Gabard, University of Southampton, UK

Programme

Tuesday 30 October 2012

09:00	An overview of the simulation of turbulent flows in the context of aeroacoustic simulation	Prof. C. Bailly
10:00	Refreshments	
10:30	Acoustic source modesl (point source, source motion, the wavy wall), Lighthill and noise from turbulence	Prof. G. Gabard
11:30	Vortex sound's theory	Prof. C. Schram
12:30	Lunch	
13:30	Goldstein's Analogy - Silent flow	Prof. A. Agarwall
14:30	Flow effects and instability waves	Prof. A. Agarwall
15:30	Refreshments	
16:00	Solid surfaces in acoustical analogies	Prof. C. Schram

Course dinner

Wednesday 31 October 2012

09:00	Hybrid APE/LES analysis: Part I Theory	Prof. W. Schoeder
10:00	Hybrid APE/LES analysis: Part II Airframe, Jet, and Combustion	Prof. W. Schoeder
11:00	Refreshments	
11:30	Duct acoustics	Prof. G. Gabard
12:30	Lunch	
13:30	Computational aeroacoustics - Direct Noise Computation	Dr. C. Bogey
14:30	Computational aeroacoustics - Direct Noise Computation	Dr. C. Bogey
15:30	Refreshments	
16:00	Q & A Session	

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