

First Announcement and Call For Papers



Scope of the Workshop

The aim of the Workshop is to present and discuss the most recent advances in flow diagnostic techniques with emphasis on aeronautical applications. The workshop closes the three-year European project AFDAR (FP-7) and many contributions from the AFDAR consortium partners will summarize the developments obtained on Particle Image Velocimetry with tomographic technique, time-resolved methods and high resolution measurements by long-range microscopy. Additionally, the advances achieved on combustion diagnostics will be presented, along with the application of image based techniques to aeroacoustics and aeroelasticity. The workshop offers also a platform to discuss and compare the measurement accuracy of recently developed methods in the areas of both planar and 3D PIV. The workshop is open to contributors outside the AFDAR consortium.

The direct objective of the Workshop is to address and summarize the current status of these developments, by bringing together researchers and industrials from a variety of communities, and to stimulate the exchange of ideas from different perspectives.

AFDAR (*Advanced Flow Diagnostics for Aeronautical Research*)

The AFDAR project (www.afdar.eu) aims at demonstrating PIV based technologies for the analysis of aerodynamic systems and aerospace propulsion components. The main developments are on three-dimensional PIV and high-speed systems for the time-resolved analysis of transient/unsteady aerodynamic problems.

The consortium led by TU Delft lists 10 European partners and two institutes from Russia and Australia.



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Main topics

Themes related to the application of PIV or other non-intrusive optical flow diagnostic techniques for the study of complex flows of relevance in aeronautics such as:

- New developments on 3D measurement capabilities: tomographic PIV, reconstruction techniques, data processing
- High-speed PIV systems and time resolved techniques
- Post-processing: pressure from PIV, applications to aeroacoustics, aeroelastic phenomena
- Combined techniques in combustion: LIF, LII and their combination with PIV. Developments of 3D-PIV in combustion
- Applications to aerodynamic flows: wings, bluff-bodies, internal flows of turbomachines, turbulent flows
- Special developments for application in complex flows: rotors, helicopters

Organization

The workshop will last two days with sessions organized by major areas. Regular presentations will be given by the participants with 20 min total duration (presentation & questions).

The workshop location is Ecole Centrale de Lille, Cité Scientifique Villeneuve d'Ascq France (<http://www.ec-lille.fr>).

Details on transport and accommodation are given on the workshop web site http://lml.univ-lille1.fr/AFDAR_Workshop/venue.htm

Abstract submission and Proceedings

Authors should send a four-pages extended abstract (including figures) in PDF or Word format to the contact address.

A selection of extended contributions will be considered for publication in a Springer special edition (Topics in Applied Physics).

Provisional time schedule

Final date for receipt of abstracts.....15 January 2014
Registration within.....1 February 2014
Final programme..... 10 February 2014

Organizing and program committee

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Contacts

Further information is available on the workshop website:
http://lml.univ-lille1.fr/AFDAR_Workshop/