

Workshop LESTAC
LES of Turbulence, Acoustics and Combustion
August 24-28, 2009, Marseille, FRANCE

Large eddy simulation (LES) has evolved into a powerful tool of central importance in the study of turbulence not only because of its capabilities of predicting fluctuating quantities like the source term for aero-acoustic simulations, but also because of its improved accuracy compared to the numerically less expensive Reynolds Averaged Navier-Stokes Simulations (RANS). In this sense, LES can be regarded as key-technology for new developments in computational aero-acoustics (CAA), in fluid-structure interactions, fatigue analysis, aerodynamics, process technology etc.

The scope of the workshop will cover recent developments in the field of LES of complex flows including: modelling and analysis of subgrid scales, numerical issues in particular for complex geometries, DES, RANS-LES coupling, flows simulations in the fields of acoustics, aero- and hydro-dynamics, combustion and magnetohydrodynamics.

Moreover, discussions and cross-over comparisons will be performed around several generic configurations and practically relevant problems provided by the benchmarks of the French-German research group CNRS/DFG GDRE on Computational Fluid Dynamics. In particular, the potential of newly developed SGS models and discretization schemes, RANS-LES coupling strategies and approximate wall conditions for predictions of complex flows will be assessed against with reference data from carefully designed experimental studies as well as databases from high-resolution numerical simulations provided by these test cases.

LES has been selected as a key topic to augment the international visibility of the French Congress of Mechanics. The Workshop LESTAC will deliver an up-to-date vision of the state of the art of LES in a broad range of applications. Hosted within the French Mechanical Conference which is held every two years with an attendance reaching nearly 1500 participants, the Workshop will be held under the joint auspices of the European CNRS/DFG Network on CFD, and the AFM (Association Française de Mécanique), which has strong institutional links with Euromech, both on the Fluid Mechanics and Solid Mechanics sides. Thus, LESTAC will invite strong cross over discussions with the audience, hence a workshop-type event, not likely to compete with conferences and/or summerschools.

Authors wishing to contribute to the conference are invited to submit a short abstract of 500 characters directly on the web page of the CFM09 (<http://www.cfm2009.cnrs-mrs.fr>). The organizers will invite contributors to submit full length papers to an ERCOFTAC publication.

Registration cost: a reduction of 10% will be granted to ERCOFTAC members (average between junior/senior early/late registration rates)

Scientific committee

Prof. C. Bailly, France
Prof. P. Comte, France
Prof. J. Froehlich, Germany
Prof. B.J. Geurts, Netherlands
Prof. D. Laurence, UK
Prof. O. Métais, France
Prof. P. Sagaut, France
Prof. R. Schiestel, France
Dr. E. Serre, France
Prof. J. Sesterhenn, Germany

Local organizing committee

Prof. P. Comte (ENSMA, Poitiers, France)
Dr. E. Serre (CNRS, Marseille, France)