



FROM THE EDITOR

It is my pleasure to present the issue devoted to the 20th Fluid Mechanics Conference held in Gliwice, Poland on the 17–20 of September 2012 which contains selected contributions presented during the Conference.

The Editorial Board tries to maintain the idea of presenting volumes dedicated to the research carried out in focused research fields. This is a good tradition which allows presenting a comparison material to become aware of the quality of the research carried out on the TASK computer resources. Fluid Mechanics is a research field in which the dominating research effort is concerned with numerical simulations.

Computational Fluid Dynamics (CFD) is a field of science demanding maximum computing resources. Thanks to the enormous development of computer performance, Fluid Dynamics has undergone a great change in terms of CFD methods and complexity of considered flow cases. All of this new development is focused however on a reduction in the scope of the modelling used. There is still a very long way to be able to simulate engineering problems by means of direct numerical simulations (DNS).

The CFD activity is still limited by the computer resources. This is also a problem for TASK, although its resources are increased considerably each year. It is more and more difficult to receive the calculation results in reasonable time. New possibilities are opened now by the PLGrid+ project. High Performance Computing of fluid dynamic problems demands a considerable exchange of information between processors and therefore the network system is yet another challenge.

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