

## FROM THE EDITOR

Dear Readers,

Around every Academic Computer Centre there are several research groups which engage more computer resources than others. One of the research fields engaging a lot of computer time are simulations of aeronautical problems. This concerns viscous, high-speed flows with very high spatial resolution in the near wall regions, the so called boundary layers. In these computational tasks modelling of turbulence is crucial and the methods chosen for better modelling of unsteady flows may imply a multiple increase in the required computational resources. As a lot of modelling is still involved in the numerical simulations in flows, the computational resources are never sufficient. Reduction of the scope of modelling always increases the demand for computer resources. Until now this situation has persisted for large aeronautical challenges such as full aircraft and helicopter simulations and aero propulsion topics.

The group from the Institute of Fluid-Flow Machinery of the Polish Academy of Sciences is one of such intensive consumers of computer resources in the TASK Centre. It seems to be a good idea to demonstrate this research by preparing a dedicated number of TASK Quarterly. In this presentation 11 papers produced by the mentioned group are put together to show the work scope carried out within the group.

It is important to mention the origins of a group with such huge computational needs. The leader of this particular research group is the Guest Editor who graduated from the Technical University of Gdansk. It was already his MSc thesis that was written under the supervision of Prof. Romuald Puzyrewski, Ph.D., P.Eng. Later, still under the Professor's supervision, the Guest Editor received his PhD and DSc degrees.

Prof. Puzyrewski who saw the beginning of the careers of many young researchers at IMP PAN and at the GUT celebrated his 80<sup>th</sup> birthday in March this year. The TASK Quarterly issue presented here is to commemorate Prof. Puzyrewski's anniversary. His students are

grateful to him as each of the papers included in this issue somehow takes inspiration from his reach scientific life. It is also good to say that Prof. Puzyrewski is still active in the dissemination of his deep knowledge of fluid mechanics to the young generation through special lectures and advisory sessions at special requests.

*Piotr Doerffer*