FROM THE EDITOR

This issue of the journal THERMAL SCIENCE is dedicated to Prof. Franz Durst, head of the Institute of Fluid Mechanics at the University Erlangen-Nürnberg, in recognition of his extraordinary contributions in many fields of fluid mechanics. His 60th birthday is an appropriate moment to present to the readers of this journal a selection of his research contributions to turbulence, laser-Doppler anemometry, optical measurements in fluid mechanics and computational fluid dynamics. We hope that the papers written by his co-workers will give detailed insight into his scientific activity and into his efforts to implement fundamental scientific results in different technologies.

For the scientific community in Yugoslavia there is one more reason to honour Prof. Durst on his 60th birthday. Franz Durst has for many years exerted a significant influence on, and has made an immeasurable contribution to, the development of the research activity in fluid mechanics in Yugoslavia, particularly in the Laboratory for Thermal Engineering and Energy of the VINČA Institute. Prof. Durst has always expressed a permanent cordial friendship and interest for development of the research activity in the Laboratory.

Starting from Prof. Durst's days as a research student, and from our first talks and discussions during my visit to Imperial College in London in the early seventies, his friendship and collaboration with many researchers of the Laboratory for Thermal Engineering and Energy has continued to the present day. Also during the seventies, Prof. Durst contributed to the activity of the International Centre of Heat and Mass Transfer and to the organisation of the symposia held in Herceg Novi. From this cooperation, there resulted the award of the first Alexander von Humboldt scholarship for turbulence research to Dr. Jovan Jovanović, who has subsequently been for many years a research fellow of the Laboratory and presently leads turbulence research in Erlangen. Through the help of Prof. Durst at the beginning of the eighties, a laser-Doppler system was presented to the Laboratory for Thermal Engineering and Energy as a gift of the German government. With this instrument the first laser-Doppler measurements in high temperature turbulent flows, both in the Laboratory and in Yugoslavia, were undertaken and resulted in interesting results on the acetylene flame turbulence structure (D. Matović, V. Bakić). In the mid-eighties Dr. Dragoslav Milojević visited the universities in Karlsruhe and Erlangen several times, working on mathematical modelling and laser-Doppler measurements of gas-particle flows. An original stochastic-deterministic approach to gas turbulence-particle interactions was then developed in his Ph. D. thesis. This was the beginning of the activity in the Laboratory in the field of mathematical modelling of different complex turbulent flows – for example, three dimensional gas-particle flows with particle-particle and particle-wall collisions (G. Živković), premixed gas combustion (S. Nemoda), low temperature plasma flows with melting and evaporation of solid particles (P. Stefanović). Many young researchers from the Laboratory for Thermal Engineering and Energy have worked together with Prof. Durst at his Institute in Erlangen and others are also working there now. We can conclude that research in at least the following topics – structure of turbulent shear flows, laser-Doppler measurements in high temperature turbulent flows and computational fluid

mechanics of complex flows with heat transfer and combustion – was developed in the Laboratory for Thermal Engineering and Energy thanks to the help and collaboration with Prof. Durst.

In the last decade, despite all difficulties and obstacles, the cooperation with Prof. Durst and his support and friendship have not only continued, but have gained new impulses and forms. The organization of Summer Academies has greatly contributed to the education of students in technical faculties from different universities in Yugoslavia. With his initiative the Simulation Laboratory equipped with a parallel computing system has recently been opened at the Faculty of Mechanical Engineering in Belgrade.

In recognition of an outstanding contribution to the field of experimental and computational fluid mechanics, the prestigious Jubilee Tesla Medal 1998 was awarded to the Institute of Fluid Mechanics in Erlangen. We are sure that many years of fruitful collaboration are still before us. I hope that this issue of THERMAL SCIENCE will contribute to further joint research activity of Prof. Durst and his co-workers with the Yugoslav scientific community.

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Belgrade

Simeon Oka
Editor-in-Chief

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