

From the Editor-in-Chief

One of the main aims of the Editorial Board of the journal *Thermal Science* is to clearly show connection between real needs of the community, industry, agriculture, and other human activities and directed fundamental research, primarily in the fields creating basic knowledge for technical sciences and engineering. Not every researcher deeply focused on his research problem is aware of these connections.

This is the reason why, from time to time, the journal *Thermal Science* publishes review papers analyzing some engineering applications, energy potential or environmental impacts of processes in industrial equipment and plants, and in different human activities.

This issue of the Supplement 1, 2012, of the journal *Thermal Science* has the same aim – to start looking at thermal processes from a “great distance” in order to see the whole picture – energy and ecology system.

The choice of papers made by Guest editors Dr. Tihomir Simić and Prof. Dr. Dušan Gvozdenac gives a good overview of tasks and problems that have to be addressed in fundamental and applied research activities in different fields – thermodynamics, fluid flow, heat transfer, combustion, chemistry, and control.

Guest editors have had a wide menu of papers to choose from, presented at the Renewable Energy Forum organized in Novi Sad, Serbia, from 2007. The last Forum, held in October 2011, was devoted to Clean Energy Technologies. The choice of papers made by Dr. Simić and Prof. Gvozdenac is mainly oriented towards the presentation and analysis of main problems in the energy system of Serbia which are also interesting for many other developing countries and especially countries in the Southeast Europe due to similar energy problems, similar energy systems, and relying on the use of domestic low quality coal and to the import of practically all required oil and natural gas.

Papers chosen for this Supplement 1, 2012, of the journal *Thermal Science* treat the large scope of problems and subjects. Starting from the review of main problems in the Serbian energy system and the impact of the European Energy Law on further development of the energy sector in Serbia, Guest editors wanted to show a wide range of the best possible use of renewable energy sources in Serbia, the best possible technologies and optimum fields of application. In such a wide scope of topics and attempts to solve practical problems of the energy system (from the choice of energy source to the end use of energy), each researcher has pursued topics of interest for investigation and has found a lot of unsolved fundamental problems in thermodynamics, fluid mechanics, heat transfer, combustion and chemistry. Optimum design and exploitation of many industrial plants and equipment depends on solving these fundamental problems. The strategy of fundamental and applied research, specifically in developing countries, must take care of real problems in the energy system in order to use the small available amount of money in the best possible way and to motivate scientists to address real problems.

The special attention has to be paid to the fact that Renewable Energy Forum in Novi Sad is organized jointly with the Faculty of Technical Sciences, University of Novi Sad, and Economic Association for Electric Energy Distribution “Elektrovojvodina”, Novi Sad. This joint activity of scientific institutions and companies is the best approach to engage the scientific community and to orient it to tackling actual problems.

I am deeply grateful to the Guest editors, Dr. Simić and Prof. Gvozdenac, for their excellent choice of papers, the job which is at the same time highly professional and delicate. I am sure that readers will obtain a realistic insight into the problems with which developing countries are faced in order to meet recent requirements of the European Union and new constraints imposed by the global warming and, at the same time, to reduce import of fuels and energy, implement new clean energy technologies and try to rely both on domestic scientific research and technology development and domestic production of necessary equipment. This task can be realized only by co-operation of science and industry as it is evident from the papers selected for this issue of the journal *Thermal Science*. The activities of the Faculty of Technical Sciences and the Economic Association for Electric Energy Distribution “Elektrovojvodina”, Novi Sad, in resolving energy problems of the Province Vojvodina, provide an excellent example that should be followed in many other fields.

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