

## **From the Guest Editor**

### **Preface to the Special Edition of the Journal Thermal Science, Dedicated to the 17<sup>th</sup> Symposium of Thermal Engineers SIMTERM 2015, and the Celebration of the 55<sup>th</sup> Anniversary of the Faculty of Mechanical Engineering in Nis**

The Faculty of Mechanical Engineering in Nis, Serbia, is an educational and scientific research institution within the University of Nis, whose primary activities are higher education at all academic levels and fundamental, applied and developmental research in natural sciences, mathematics, engineering sciences and technology.

The Department of Mechanical Engineering of the Technical Faculty in Nis began its work in 1960, and developed into the Faculty of Mechanical Engineering, University of Nis, in 1971, as an independent higher education institution.

Today, there are around 100 professors and assistants working at the Faculty of Mechanical Engineering in Nis, while a large number of doctoral students and scholars of the Ministry of Education, Science and Technological Development also participate in the teaching process and research projects.

The Faculty of Mechanical Engineering in Nis comprises 10 departments which cover the following fields: energetics and process engineering; mechatronics and control; mechanical design, product development and engineering; production information technologies and management; traffic engineering, transport and logistics; applied mechanics and mathematics, within which professors and assistants perform their educational and scientific research activities. The Faculty organizes courses at all academic levels: undergraduate, master's and doctoral studies. Students can choose one of the five study programmes, which are accredited with the Ministry of Education, Science and Technological Development.

The faculty also houses 19 laboratories which are employed in the education of students, and which primarily serve the academic and scientific research purposes. A certain number of these laboratories are also accredited for testing various products and providing services for industry.

In the past 55 years of its existence, the Faculty of Mechanical Engineering in Nis has managed to create a solid educational and research basis, and now possess significant equipment offering numerous opportunities for successful scientific, developmental and experimental research necessary to meet the requirements of higher education and economy.

On behalf of the Society of Thermal Engineers of Serbia, the Faculty of Mechanical Engineering in Nis had previously five consecutive times organized the Symposium of Thermal Engineers, while the 17<sup>th</sup> Symposium of Thermal Engineers in 2015 was the sixth time that this honour was bestowed upon it. The Symposium of Thermal Engineers SIMTERM is a renowned international scientific conference which is held every second year.

The 17<sup>th</sup> Symposium of Thermal Engineers entitled SIMTERM 2015 was held in the period from October 20 to 23 2015, in the “Moravica” hotel in Sokobanja. During SIMTERM 2015, 122 papers were presented. Apart from the participants from Serbia, the papers were also presented by participants from a great number of other countries. A certain number of invited lectures were also given by eminent experts from the country and abroad. The Symposium took place in 8 sessions which included the following thematic areas: Technologies and Plants, New and Renewable Energy Sources, Mathematical Modelling and Numerical Simulation, Experimental Investigation of Processes, Energy Efficiency in Industry, Civil Engineering, Communal Systems and Traffic, Expert Systems, Fluid Flow, Heat and Mass Transfer, Combustion, and Environmental Protection, as well as several poster sessions.

On the occasion of the organized 17<sup>th</sup> Symposium of Thermal Engineers and the 55<sup>th</sup> anniversary of the Faculty of Mechanical Engineering, University of Nis, a special issue of the journal *Thermal Science* has been prepared, containing a number of selected papers, presented at the 17<sup>th</sup> Symposium of Thermal Engineers, as well as papers dedicated to the 55<sup>th</sup> anniversary of the Faculty of Mechanical Engineering in Nis.

This special issue of the journal *Thermal Science* includes 34 papers, not only written by professors and assistants of the Faculty of Mechanical Engineering in Nis, but also by professors, assistants and researchers from other faculties and institutes, both from the country and abroad, and by doctoral students actively included in scientific research and projects, who are working on their doctoral dissertations at faculties in Serbia and whose research has yielded a number of papers.

The papers published in this issue of the journal encompass a wide range of areas (fluid mechanics, thermal engineering, thermoenergetics, automation and robotics, numerical simulation in design and testing of thermal engineering devices, modelling of solar concentrators, energy efficiency in building construction, hydraulic engineering and engines) and deal with the current, modern problems from various scientific disciplines. The papers present the most important scientific and professional results obtained in the last several years. All of the papers, regardless of the scientific field to which they belong, possess a common basis – the examination of thermal processes. This shows that thermal processes are present in all aspects of research in various branches of mechanical engineering. The majority of the papers presented in this special issue of the journal *Thermal Science* are, in fact, the results of the research within the projects funded by the respective Ministry of Education, Science and Technological Development, international projects and doctoral dissertations, which are all based on the study of thermal processes.

All of the papers have been reviewed in accordance with the high standards of the journal *Thermal Science*, which have propelled the journal on the list of renowned global journals in the field of thermal engineering, thermoenergetics, process engineering and energy efficiency.

The publication of the results achieved during scientific research in the international level journals represents a challenge for every researcher, both from the Republic of Serbia and from other countries, and particularly for young researchers. By publishing their papers in international journals, young researchers open the door to the world of science, and create an opportunity to submit their research results to the critique from a wider circle of renowned experts. Thus, apart from the appropriate recognition, they also receive responses and comments concerning the direction in which their future research, improvement and development should proceed.

I would here like to thank the reviewers which have significantly improved the quality of the published papers through their reviews, constructive comments and suggestions, thus providing invaluable help in the preparation of this issue.

I would also like to use this opportunity to thank our esteemed professors and renowned scientific workers, Dr. Milan Radovanović, president of the Society of Thermal Engineers of Serbia, and Prof. Dr. Simeon Oka, editor-in-chief of the journal *Thermal Science*, for their understanding and acceptance of the initiative to publish this special issue of the journal, and generous and substantial help in its publication, which is of great importance for the Faculty of Mechanical Engineering in Nis.

I hope that this will contribute to the Symposium of Thermal Engineers gaining even greater reputation and popularity in the years to come, leading to an increase in the number of participants from the country and abroad.

Furthermore, I would like to extend my gratitude to Dr. Nenad T. Pavlović, dean of the Faculty of Mechanical Engineering in Nis, on endorsing the initiative to publish this special issue of the journal *Thermal Science*, as well as the support and understanding that he expressed during the preparation of this special, for us very important, issue of the journal.

Finally, I would also like to thank all of those, who have contributed to the publication of this special issue in any possible way, particularly to my dear colleague, Dr. Mića Vukić, full professor at our Faculty, who has been enormously helpful and contributed significantly to this issue through his great dedication.

Guest Editor

Professor Mladen Stojiljković, Ph. D.,  
Faculty of Mechanical Engineering,  
University of Nis, Nis, Serbia