

In memory of Ljubomir Jovanović

**On February 14, 2009
Ljubomir Jovanović
departed from us**



Ljubomir Jovanović (1935 -2009)

Prof. Dr. Ljubomir Jovanović was born in 1935 in Sarajevo. He graduated from high school in Novi Sad and the Faculty of Mechanical Engineering in Belgrade in 1959. Immediately after graduation, in January 1960, Ljubomir Jovanović was employed at the Boris Kidrič Institute of Nuclear Science, Vinča (presently Vinča Institute of Nuclear Sciences). He defended his doctoral dissertation at the University of Belgrade in 1972. He completed a three-month specialization on heat transfer in nuclear reactors at the Institute CISE, Milan, Italy, in 1963, and an eight-month training on reactor techniques at the Institute AB Atomenergy, Studvik, Sweden, in 1965.

Ljubomir Jovanović belonged to a group of young, ambitious and to science dedicated graduated students of the Mechanical Engineering and Electrical Engineering faculties, who were employed in the Laboratory for Thermal Engineering and Energy of the Institute “Vinča” during the sixties of the last century. It was the first generation to be educated in the country with specializations realised in leading research centres of the world and was ready, in the moments of crisis of the 1970s, to create and execute transformations of the research programme of the Laboratory and to ensure its further development and progress. The contribution of Ljubomir Jovanović in those years of crisis was in the formulation of new programmes for the Laboratory in the field of traditional energy.

In the Institute, he advanced all the way from research trainee, through manager of smaller and then larger research units then directed a series of research projects and finally obtained the highest title of Scientific Advisor. From 1980, he was the Director of the Laboratory for Thermal Engineering and Energy for several tenures. As a major organizer in conducting this Laboratory, he was appointed by the General Director of the Institute at the time, Dr. Djordje Jović, as his assistant from 1986 until 1990.

In parallel with his scientific work in the Institute, Ljubomir Jovanović passed on his knowledge to generations of students and postgraduates of the Faculties of Mechanical Engineering in Belgrade and Skopje, the Faculty of Organizational Sciences in Belgrade, and the Faculty of Technical Sciences in Novi Sad. He was mentor of many master and doctoral theses, and numerous diploma works.

Thanks to his comprehensive and systematic approach to energy, Ljubomir Jovanović was called as a member of an expert group for the elaboration of the “Strategy of Scientific and Technological Development of Serbia up to 2000”, “Scientific-Technological Development of Yugoslavia” and later “Energy Development Strategy of the FR Yugoslavia by 2020, with vision until 2050”, as the coordinator for Energo-technology.

For his fruitful scientific contributions, Ljubomir Jovanović received several awards and recognitions: in 1967, the award “Kolubara” for work in the field of nuclear reactor calculations; in 1979, the Vinča Institute Award for work in the area of fouling and cleaning of heating surfaces of boilers; in 1986, the October Award of Belgrade as a member of the team which developed the technology of combustion in fluidized beds.

In the Vinča Institute of Nuclear Science, especially in the Laboratory for Thermal Engineering and Energy, during his 40-year working life, he realised fruitful scientific research and pedagogical work. Significant and immeasurable are the contributions of Ljubomir Jovanović in the improvement of the organization of professional personnel in the country and in raising the reputation of the Society of Thermal Engineers and of our profession in the international scientific and professional community.

Professional biography of Ljubomir Jovanović

In 1958, Ljubomir Jovanović, as well as a group of 5-6 other distinguished students, was offered a fellowship of the Boris Kidrič Institute of Nuclear Science, Vinča. Ljubomir was the first of this group to graduate and was the first to be employed in the Institute at the beginning of 1960. A laboratory focusing exclusively on nuclear energy was emerging.

At the end of the 1960s, he vigorously advocated that research should be directed towards applied research and to cooperation with the economy. He engaged maximally in the prospect of and establishment of cooperation with the Electric Power Industry of Serbia, delaying thereby work on his doctoral thesis. He participated in the creation of long term research programmes in the Laboratory, giving special attention to exploitation problems of thermal power plants and the lignite combustion research being the main directions. This decision and its orientation decided crucially both the further professional profile of the Laboratory, as well as his further professional and scientific activities.

Ljubomir Jovanović gave as its director key contributions to the development of the Laboratory. He launched the computerization of the Laboratory, the procurement of equipment for the automation of experiments and the digital collection and processing of data, not only for experimental purposes in the Laboratory, but also for measurements under actual industrial conditions.

Later, the scientific and professional contribution of Ljubomir Jovanović arose from his long-standing cooperation with the Electric Power Industry of Serbia through the study of the streaming of two-phase water-steam flows. The results of the many years of work of Ljubomir Jovanović on the solution of problems in the operation of thermal power plants' boilers were the experimental basis for the establishment of numerous probes for specific measurements and the development of measurement methodologies in the field. Together with his team, he elaborated methodologies for the diagnostics of operating parameters and a research methodology for the process of ash bonding based on measurements performed on the largest boilers in former Yugoslavia, starting from the TPP Plomin in Istria on the West to the TPP Obilić in Kosovo on the East.

In 1974 in the monograph “Experimental investigations of ash bonding on display tubes of high power energy boilers”, Ljubomir Jovanović defined not only the needs for measurements in the field, but also under laboratory conditions. Based on these analyses, a set of numerous specific and special probes for the measurement of boilers in operation was completed and the foundations for building an experimental base in the Laboratory were established.

In a following monograph by Ljubomir Jovanović, published in 1975, “Fouling and cleaning of boiler heating surfaces”, in addition to a review of studies on the problems and pro-

cesses of bonding ashes, the directions and strategies for a further approach to the solution of these exploitation problems, the directions for the study of processes in boilers operating in plants as well as in laboratories, and the directions for further cooperation with the Electric Power Industry were given.

The work on these problems in thermal power plants continued until the second half of the 1980s. The main results of these investigations, a series of laboratory measurements on a combustion chamber which was constructed in 1978-79, and measurements conducted in the field, cumulated in the form of recommendations for the selection of parameters for boilers which burn domestic lignite in the extensive work "Study of the process of bonding ashes on heated surfaces of steam boilers using coals from opencast mines in Kolubara, Kosovo, and Kostolac". These formulated recommendations, finally accepted by the Electric Power Industry in the early 1980s, were used for the selection of parameters of new boilers, and even today as well, for the analyses of exploitation problems of thermal power plants.

After these first problems had been solved for the needs of the Electric Power Industry and based on the significant and useful results obtained for the Electric Power Industry itself, the cooperation with the Electric Power Industry spread further to many other problems, with the constant participation and leadership of Ljubomir Jovanović, as a researcher and as the Director of the Laboratory. This cooperation continues successfully today, making a significant contribution to the activities of the Laboratory. It should be remembered how this commenced, and what was the role of Ljubomir Jovanović and what were the results that were realised in this area over a long time period by Ljubomir Jovanović with the team he led.

Publishing biography of Ljubomir Jovanović

Ljubomir Jovanović was one of the founders of the Technical Sciences Students' Club, which was for many years under his leadership, until the completion of his studies. He was one of those who paid attention to the cultural programme of the Club. While studying, Ljubomir was an external associate of the newspaper "Student".

Ljubomir Jovanović, as a young member, actively participated in all activities of the former Laboratory for Reactor Thermal Engineering of the Boris Kidrič Institute of Nuclear Sciences, Vinča, which was the initiator and coordinator in the preparation, initiation and establishment of the scientific and professional association, the "Society of Thermal Engineers of Yugoslavia". His eternal optimism, enormous energy, always present initiative and great sense for organization and cooperation with colleagues contributed to: the foundation of the scientific and professional association, The Society of Thermal Engineers of Yugoslavia; to the development and maintenance of the Society of Thermal Engineers and to the birth of the professional journal "Termotehnika". The editing of the scientific journal "Termotehnika", which the Society commenced to issue in 1975, was his commitment and responsibility. In the beginning, the editor-in-chief was Prof. Milan Vesović, and Ljubomir Jovanović, deputy editor-in-chief, who practically from the beginning organized and realised the complex procedures of publishing the journal in the Institute. At the end of the 1970s, the Journal received the full recognition of the scientific and professional community of Yugoslavia.

At the end of 1981, the Society of Thermal Engineers of Yugoslavia, appointed Dr. Ljubomir Jovanović as editor-in-chief of the already prominent national magazine. In this position, he remained actively operating and managing the publication of the journal "Termotehnika" even after his retirement, actually, continuously until his demise.

Under his leadership, the magazine not only reached its peak in the late 1980s, but also successfully overcame the crisis of the nineties on the territory of Yugoslavia, underwent the required transformations and rose again in prominence after 2000.

Dr. Ljubomir Jovanović as an experienced manager of the Laboratory for Thermal Engineering and Energy and editor-in-chief of the magazine, with the help of his associates in the Laboratory and of Prof. Dr. Simeon Oka especially, managed to revive the magazine, helped in the organization of more professional-scientific meetings of the Society of Thermal Engineers and practically, on these grounds, preserved the Society of Thermal Engineers in turbulent times, the worst ones for both the society and the profession. The editorial of the journal “Termotehnika” under the direction of Ljubomir Jovanović, and at the initiative of Simeon Oka, began in 1995 with the publishing of international papers in English. In the beginning, only one issue was printed annually but within a few years it was transformed into an international specialist magazine edited in English, the journal “Thermal Sciences”, under the editorship of Simeon Oka. This journal has received full international recognition, significantly raising the reputation of the Society of Thermal Engineers of Serbia.

The enormous contribution of Prof. Dr. Ljubomir Jovanović to the scientific and professional work of the Society of Thermal Engineers of Yugoslavia and later of Serbia through the journal and numerous symposia, which are the main working form of the Society, will remain not only in the memories of the many associates with whom he successfully collaborated and realized significant results, but his work will remain forever documented through the 34-year editions of the magazine “Termotehnika”, on which he for ever left his mark.

Dr. Borislav Grubor

Principal Research Fellow

Director

Laboratory for Thermal Engineering and Energy
Vinča Institute of Nuclear Sciences