

---

# THE 5<sup>TH</sup> INTERNATIONAL YUGOSLAV NUCLEAR SOCIETY CONFERENCE YUNSC-2004

## **Preface by Dragoljub P. Antić, YUNSC-2004 Organizing Committee Chairman**

The 5<sup>th</sup> International Conference of the Yugoslav Nuclear Society (YUNSC-2004) was held in Belgrade from Monday, September 27, to Thursday, September 30, 2004.

YUNSC-2004 is the fourth in the established series of conferences to be devoted to the promotion of scientific and technical co-operation of nuclear societies, especially of the countries in the Balkan region, and exchange of information and ideas between professionals in the nuclear field. One of the main goals, besides the good quality of the presented papers and the attendance of well-known experts, was the ambition of the Organising Committee to establish a traditional YuNS conference that would gather nuclear experts from our country, Serbia and Montenegro experts currently working abroad and experts from neighboring and regional countries.

The conference was organized by the Yugoslav Nuclear Society (YuNS) and co-organized by the VINCA Institute of Nuclear Sciences, Belgrade, Serbia and Montenegro. The Conference was supported by many governmental, economic and a number of Yugoslav scientific and educational organizations.

Previous YUNSC-conferences were very successful. At the first YUNSC'96 conference, 121 papers contributed by 280 authors from 19 countries were presented ( of which 71 by foreign authors); at the second YUNSC'98 conference, 131 papers submitted by 300 authors from 22 countries were presented (86 papers by foreign authors); at the third YUNSC-2000 conference, 144 papers by 330 authors from 30 countries were presented (81 by foreign authors); and at the fourth YUNSC-2002 conference, 117 papers by 270 authors from 30 countries were presented (71 by foreign authors).

The Conference took place at the Chamber of Commerce of the Republic of Serbia, Belgrade, Yugoslavia. The official language was English

The keynote speech was given by Dr. Aleksandar Belić, Serbian Vice-Minister of Science, Technology and environment, and by Dr. Zlatko Rakocević, director of the Vinca Institute of Nuclear Sciences. Besides scientists, the ceremony was attended by many officials from the government, economy and a number of Yugoslav scientific and educational organisations. As an introduction to the conference, the future project "Vinča Institute Nuclear Decommissioning Program" was promoted by Dr. Milan Pešić, program manager.

At the conference, out of 100 papers (55 papers by foreign authors) , 23 were presented in 9 Oral Sessions, while 77 contributions were presented in the Poster Session.

---

The sessions focused on the topics of current interest given in the announcement. Oral presentations made by invited and selected speakers outlined the general aspects of the conference. Due to limited time and great interest, other accepted contributions were displayed in the form of posters.

The presented papers were scientific contributions of 270 authors from 29 countries (Austria, Belarus, Bosnia and Herzegovina, Bulgaria, Canada, England, Germany, Hong-Kong, Iran, Italy, Japan, Netherlands, Romania, Russia, Slovenia, Ukraine, USA and Serbia and Montenegro). About 35 foreign and almost 150 Yugoslav scientists took part in YUNSC-2004.

Papers submitted by invitation were presented by selected foreign experts and Serbia and Montenegro scientists currently working abroad or in the country. Other oral contributions were selected by the YUNSC-2004 Program Committee according to their quality and contemporary themes, of interest for Yugoslav nuclear science and technology.

Two welcome receptions were organised: the first by Dr. Milan Pešić, President of the Yugoslav Nuclear Society, and the second by Mrs. Radmila Hrustanović, Lord Major of Belgrade City.

The first day of YUNSC-2004 was devoted to: nuclear energy, nuclear power plants and spent fuel and waste management. Modern computation methods in reactor physics, experimental techniques, contemporary safety principles and regulatory recommendations were shown as well. During the first day, YUNSC-2004 organized a round table with the topic ***Nuclear Legislation & Infrastructure for Improving Nuclear & Radiation Safety***. The aim was to analyse actual situation in nuclear legislation in Serbia and Montenegro at the start of the process of the RA nuclear reactor decommissioning and compare with the experience in other countries.

During the second day, the papers dealing with nuclear power plants, reactor safety, research nuclear reactors and spent fuel management. During the second day, YUNSC-2004 organized a round table with the topic ***Spent Fuel Return Programs***. The aim was to analyse actual situation according to the spent fuel return for the RA nuclear reactor and IAEA programs for the spent fuel of Eastern Europe research reactors.

During the third day, YUNSC-2004 organized a visit to the Vinča Institute of Nuclear Sciences (RA Nuclear Reactor and TESLA Accelerator Installation) and excursion to the Naïve Art Gallery in Kovačica village. The conference dinner was organised in Ečka Castle.

During the fourth day, nuclear energy future was discussed and YUNSC-2004 organized a session a round table entitled ***Energy Future of Serbia and Montenegro***, which aroused great interest among the conference participants and Yugoslav electricity industry experts. The aim was to inform the attendees and the public of the energy problems in Serbia and Montenegro (the presentation of Mr. Aleksandar Kovacevic, UNDP Belgrade) and discuss the possible role of the nuclear energy sector in future energy strategies.

The Conference Award Committee (professor **Šćepan Miljanić**, Faculty of Physical Chemistry, University of Belgrade, Yugoslavia, professor **Domiziano Mostacci**, University of Bologna, Italy, and Dr. **Rodoljub Simović**, editor-in-chief of the *Nuclear Technologie and Radiation Protection* scientific journal, Belgrade, Serbia and Montenegro) awarded the best scientific paper presented at the Conference, and the best paper of a young participant (under 35 years). The criteria for the said selection were:

1. Participation at YUNSC-2002 as an attendee
2. Significant and timely research results

- 
3. Outstanding performance and promise for future substantial achievement in scientific research, as judged by the Award Committee

The awarded author of the **best scientific paper** was Dr. **Yury A. Teterin**, Russian Research Center *Kurchatov Institute*, Moscow, Russia, the awarded paper MODERN X-RAY SPECTRAL METHODS IN THE STUDY OF THE ELECTRONIC STRUCTURE OF ACTINIDE COMPOUNDS: URANIUM OXIDE UO<sub>2</sub> AS AN EXAMPLE, authors Yury A. Teterin, Anton Yu. Teterin.

The awarded young author was M.Sc. **Marco Cherubini**, University of Pisa, Italy, the awarded paper ADDRESSING THE SCALING ISSUE BY THERMALHYDRAULIC SYSTEM CODES: RECENT RESULTS, authors F. d'Auria, M. Cherubini, G.M. Galassi, N. Muellner.

In Conclusion of YUNSC-2004, the quality of the presented papers was underlined and the announcement for the next conference – **6<sup>th</sup> International Yugoslav Nuclear Society Conference (YUNSC-2006), Belgrade, Serbia and Montenegro, Sep 29 - Oct 2, 2006** will be mailed to all YUNSC-2004 participants.

The organisation of YUNSC-2004 was financially supported by the Ministry of Science and Environment of the Republic of Serbia, Chamber of Commerce of the Republic of Serbia and many other governmental and non- governmental entities.

The abstracts of the presented papers were published in the *Book of Abstracts* distributed to the participants, and, finally, the Proceedings of the conference has been edited.

Dragoljub Antic,

YUNSC-2004 Organising Committee Chairman