## In Honour of the 150th Birth Anniversary of Nikola Tesla

*Nikola Tesla* (1856-1943) significantly influenced technological development with his polyphase system inventions. The system is in cornerstone of modern electrical energy production, long- distance transmission, and use of electrical currents. Beside inventing the induction motor, he invented the Tesla coil - a high frequency transformer, which is an essential part of all contemporary high frequency devices. Tesla also pioneered research into other effects produced by his currents, such as the possibility of induction heating,



ozone production, and effects on the human organism. His inventions have been crucial to the development of many of today's technologies including the radio, radar, television, motors of all kinds, and computers. He is also credited with predicting the emerging energy problem as early as 1900. After death of Nikola Tesla in 1943, all his

belongings have been inherited by his nephew and transferred to Belgrade where in 1955 the Nikola Tesla Museum has been opened. His ashes are also in the Museum. After his death, the name "Tesla" was given to the unit of magnetic induction.



Tesla Monument at Niagara Falls unveiled on July 9, 2006. Tesla is standing atop an AC motor, one of the 700 inventions he patented. In the background is Niagara Falls, Canadian side.



The Nikola Tesla Archive in Belgrade (Serbia) constitutes a unique collection of over 160,000 pages of the patents decumentations, scientific correspondence, scientific papers, manuscripts, technical drawings, scientific measuring data, personal documents, and legal papers as well as over 1,000 original photographs of Tesla's experiments and inventions, all of which are indispensable to the study of the history of electrification. Nikola Tesla's Archive in Belgrade joins Memory of the World register.



Nikola Tesla's Museum in Belgrade

## Nikola Tesla's Patents and Inventions



## 6th International Symposium Nikola Tesla

On the occasion of  $150^{\text{th}}$  Anniversary of Nikola Tesla birth, Government of Serbia Republic and the co-organizers the Serbian Academy of Sciences and Arts, Faculty of Electrical Engineering, Belgrade, Faculty of Electronic Engineering, Nis, Faculty of Technical Sciences, Novi Sad and Institutes "Nikola Tesla" and "Mihajlo Pupin" from Belgrade, organized  $6^{\text{th}}$  International Nikola Tesla Symposium in Belgrade, October 18 – 20, 2006.

After a short musical recital, president of the Serbian Academy of Sciences and Arts academician Nikola Hajdin, after an introductory speech, opened the Symposium. The participants were greeted by Radomir Naumov, minister of mining and energy, Mrs Emily Sopensky, IEEE representative who introduced professor Konrad Reichert, the winner of 2006 IEEE-PES Nikola Tesla Award, invited participants to apply for the same award in future, and informed about special IEEE plaque presented to Nikola Tesla and which will be held in the Nikola Tesla Museum in Belgrade. The participants were also greeted by professor Jasmina Vujic, University of California, professor Bernard Carlson, University of Virginia, professor Gradimir Milovanovic, and William Terbo, grand nephew of Nikola Tesla.

Plenary session was opened by professor Konrad Reichert's talk on Permanent Magnet Machines, followed by talk on Tesla's polyphase system and induction motors by academician Petar Miljanic, about Tesla's role in the development of radio by academician Aleksandar Marincic and co-authors and professor Jasmina Vujic about problems of free energy for all.

The afternoon session II was devoted to *Electrical Machines from Tesla to Modern Controlled Electrical Drives* with the presentation of three invited papers (two were from abroad) and one regular paper.

Session III was also devoted to the same problems with two invited and three regular papers. Among the latter was a paper by a group of students from the Faculty of Electrical Engineering, Belgrade, winner in an international competition of student's works held in the USA.

The second Symposium day, session IV, was devoted to *Transmission of Electrical Energy*. Among three invited papers two were from abroad. Among five regular papers one dealt with thunderstorms in Colorado on July 3, 1900, the day when Tesla claimed to discover the standing waves caused by electrical discharges. The next session V, dealt with *Wireless Transmission and Tesla Coil*. Among three invited papers, two were from abroad explaining modern approach to wireless power transmission based on microwave engineering. Among regular papers, the one describing Tesla's spark gap, two resonant coil design, made by the Faculty of Electrical Engineering and exposed at the exhibition "Nikola Tesla – the work of a genius", was noted.

The Symposium third day was in a smaller hall which was small to receive all interested.

The session VI was devoted to *Alternative Energy Sources*, and the last session VII to *History of Science and Relatives*. In history session were included five papers by foreign participants: Bernard Carlson, Mita Postich, Dusan Popov, Marc Seifer (who could not come in time for the plenary session) and the sculptor of the new Nikola Tesla monument in Canada Leslie Drysdale.

Social program included sightseeing tour by boat, panoramic sightseeing, visit to "Milosev Konak" and visit to thermoelectric power station "Nikola Tesla".

All presented and several accepted papers are published in the Symposium Proceedings. All authors and about 150 participants without papers received copies of the Proceedings.

Chair of the Symposium, Prof. Aleksandar Marinčić, member of Serbian Academy of Science and Arts





Exibition opening



A detail from the exibition



From the Nikola Tesla Museum



A detail form the awarding ceremony (Prof. Z. Popović, Prof. A. Marinčić, Prof. B. Milovanović)



Symposium Steering Committee (Dr. M. Smiljanić, Prof. A. Marinčić, Prof. B. Milovanović, Prof. M. Stojić)