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J. Serb. Chem. Soc. 78 (12) 1839–1845 (2013) UDC 929 Branislav Ž. Nikolić

Professor Branislav Ž. Nikolić

On the occasion of his 70th Birthday

Branislav Nikolić was born on 22 September 1943, in the town of Knjaževac (Serbia). He attended secondary school in Podgorica (Montenegro), and graduated in 1966 from the Faculty of Technology and Metallurgy, University of Belgrade. In 1977, he obtained his PhD in Technical Sciences under the mentorship of Professor Aleksandar Despić, from the same school. After employment at the Institute of Chemistry, Technology and Metallurgy, University of Belgrade for three years, he became a permanent staff member at the Faculty of Technology and Metallurgy, University of Belgrade. He rose from the position of Teaching Assistant through all the ranks (Assistant Professor in 1978, Associate Professor in 1985), to Full Professor in Physical Chemistry and Electrochemical Engineering in 1992. He served two terms as Vice-Dean, and became Chair of Physical Chemistry and Electrochemistry (1999–2005). He taught Physical Chemistry, Electrochemistry, Electrochemical Engineering (basic and advanced courses), Electrometallurgy and Mass Transport in Electrochemical Systems, at the University and at the Centre for Multidisciplinary Studies. He was mentor for approximately twenty Diploma Dissertations, a well as fifteen MS, and ten PhD Theses. During his career, he authored two university textbooks on *Experimental Physical Chemistry* and *Electrochemical Engineering*. At Case Western Reserve University, Cleveland, OH, Professor Nikolić was a Postdoctoral Fellow under the mentorship of Professor Ernest Yeager (1977/78), Visiting Scientist (1979) and Visiting Professor (1990).

Professor Nikolić participated in numerous scientific research projects, and coordinated several complex projects sponsored by the Serbian Ministry of Science (2000/2008). He has published more than 120 scientific papers (approximately 70 in international journals and meeting proceedings) and 20 professional papers. He delivered 15 invited lectures and had some 130 contributed papers at international and national meetings with more than 650 citations.

Professor Nikolić's three main scientific interests are in the field of Electrochemistry. The first involves electrocatalysis of chlorine and chlorine compounds. He studied the kinetics and mechanisms of electrochemical reactions of chlorine and chlorine–oxygen compounds, including the effects of the composition and structure of anode materials, current density, current density distribution, pH value, hydrodynamic regime and temperature. The main outcome of this research included the formation and characterization of electrocatalytic oxide (such as $RuO_2/IrO_2/TiO_2$) coatings, and their optimization for chlorine and oxygen evolution, as well as the oxidation of organic compounds. He also contributed to the characterization of ruthenium oxide as a supercapacitor material.

Mass transfer in electrochemical systems is another area that was in the focus of his research. He studied mass transfer in electrochemical reactors (chlorate electrolysis) and rotating disc electrodes (disc, disc–ring, ring–ring and rectangular patch electrodes), which are successfully used as a measuring technique in electrochemical kinetics.

Electrocatalysis of the oxygen reduction reaction is the topic he embraced long ago by starting pioneering studies of the adsorption of macrocyclic complexes of transition metals, and their role in oxygen reduction. He also contributed to the understanding of the oxygen reduction reaction and the electrochemical behavior of Pt single crystal electrodes.

Professor Nikolić participated in projects sponsored by the chemical industry, involving electrolytic technologies for the production of chlorine, sodium hydroxide, sodium hypochlorite, chlorate, and perchlorate. His interest in applied electrochemistry finally resulted in his significant achievement in oxide electrodes: titanium electrodes with ruthenium–titanium oxide coatings as the result of his team's research were successfully used in industrial electrolyzers. He and his research team developed a sol–gel procedure for the production and application of RuO_2–TiO_2 anode coatings.

For his scientific achievements, Professor Nikolić received the Annual Award of the City of Belgrade (1974) in the field of Mathematics/Physics, the Medal of the Serbian Chemical Society for outstanding industrial application of science (1998), and the Serbian Chemical Society Award for long-lasting and outstanding contributions to science (2007).

Professor Nikolić has been a very active member of the Serbian Chemical Society. He was General Secretary (1984–1988), Vice-president (1996–2001), and President (2001–2005). Since 2012, he serves as Honorary President of the Society. He is a long-time member of the Editorial Board of the *Journal of the Serbian Chemical Society*. Moreover, he was the Secretary of the Union of the Chemical Societies of Yugoslavia. He is a member of the International Society of Electrochemistry, acting as the Yugoslav (Serbia and Montenegro) National Secretary, and a member of the European Federation of Chemical Engineers – Work-

ing Party on Electrochemical Engineering (used to be also National Representative). As an officer of the *Serbian Chemical Society*, he was a member of the General Assembly of the European Association for Chemical and Molecular Sciences.

In 2006, our dear colleague Prof. Nikolić became Editor-in-Chief of the *Journal of the Serbian Chemical Society*. With his enthusiasm and personal touch, he continues to improve the quality and diversity of the Serbian Chemical Society's flagship journal, for which all of us are enormously grateful. It is our privilege and great pleasure to give you this short biographical note on Professor Nikolić on the occasion of his jubilee. On behalf of his colleagues and friends, we wish him to stay with our Society and our Journal for many years to come.

Bogdan Šolaja
Radoslav Adžić

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