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OBITUARY

Boris Matković
(1927–2005)

Boris Matković, a pioneer of the application of X-ray structural analysis in the cement industry in Croatia, passed away on March 6, 2005. He was born on September 1, 1927 in Zagreb, where he completed elementary (1933–1937) and Latin grammar school (1937–1945). He studied and graduated from the Department of Chemical Technology of the Technical Faculty (1945–1951). He earned his doctor's degree in 1961 at the Faculty of Science and Mathematics by defending the doctoral thesis entitled *Crystal structure of acetylacetonates of four-valent zirconium, cerium, thorium and uranium*, prepared under the supervision of Drago Grdenić, with whom he investigated crystal structures of these elements using X-ray diffraction. He spent two post-doctoral years (1964– 1966) at the Department of Chemistry, Washington State University, Pullman (Washington, USA), with Selmer W. Peterson, working on crystal structure analysis by neutron diffraction on monocrystals. It was there that he got conversant with the use of fast electronic computers for processing large amounts of experimental data. He also spent a year (1972–1973) at the Department of Chemistry, University of Illinois at Urbana-Champaign (Illinois, USA), with J. Francis Young, where he studied binding materials.

After graduating (1951), Matković was employed in the Cement plant at Podsused (Zagreb) where he worked until he joined the Rugjer Bošković Institute in 1956. He spent the remaining part of his career at the Rugjer Bošković Institute, from which he retired in 1993. His career advanced as follows: research assistant (1956), research associate (1963), senior research associate (1969) and senior research scientist (1975). He headed the X-ray Laboratory and was director of the Department of Solid State of the Rugjer Bošković Institute. While serving as head of the X-ray Laboratory, he introduced the use of computers into laboratory work.

Matković lectured on the Chemistry of Materials to post-graduate students of the Faculty of Civil Engineering in Zagreb (1970–1981). He also lectured on experimental methods in crystal structure analysis to post-graduate students of the Faculty of Science and Mathematics (1963–1994).

He was a member of the Croatian Chemical Society (since 1949) and the American Ceramics Society (since 1980). He also served on the Editorial Board of this journal from 1963 to 1994.

Matković's research interests included (i) *structural chemistry* – determination of crystal and molecular structures of inorganic compounds, notably structure determination of potassium and sodium thorium phosphates, and explanation of their properties on the basis of the obtained structural data; (ii) *cement and concrete chemistry* – development and improvement of the strength and durability of Portland cement and magnesium oxychloride binders, effect of concrete surface hardeners, and high-strength concretes; (iii) *waste materials* – use of waste phosphates (from the chemical industry) and electrofilter ash (from steam power plants) in civil engineering; (iv) *phase analysis* – where a notable result is the definition and explanation of the conditions under which the inert phase of dicalcium silicate (γ-$CaSiO_4$) becomes reactive, and (v) *analysis and classification of kidney and urinary stones* – these results are of a special value for the study of the pathogenesis of nephrolithiasis in Croatia. He also worked on the preparation of inorganic compounds. He published a number of scientific (53) and technical pa-

pers (40) and for his work he was awarded the State Award for Science (1971).

Boris Matković was a very nice and kind person, always ready to help. It is our privilege that we have known him and worked with him.

Marija Herceg-Rajačić, Nenad Trinajstić

(Part of this text is taken from N. Trinajstić, *100 hrvatskih kemičara* (100 Croatian Chemists), Školska knjiga, Zagreb, 2002)