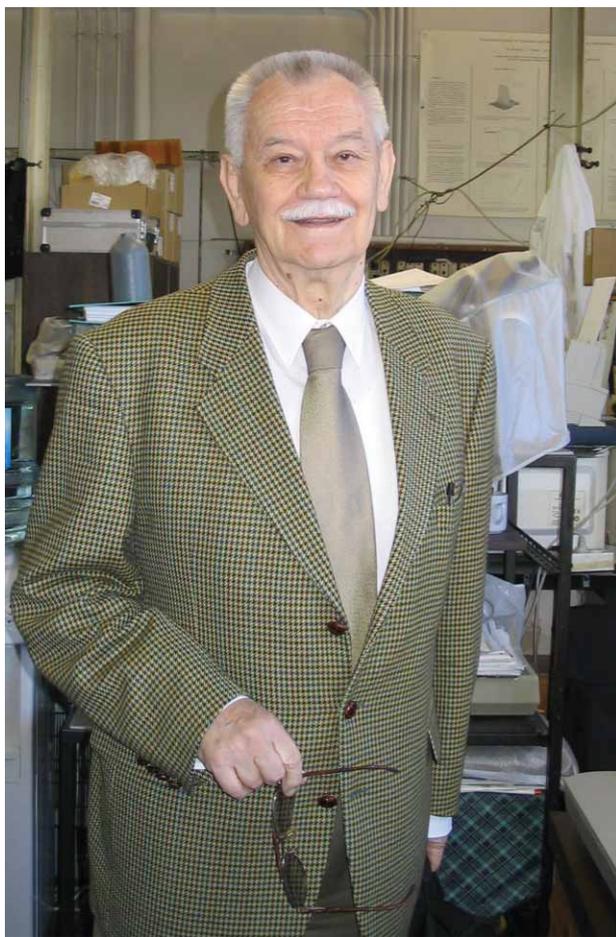


## OBITUARY

### Marko Branica (1931–2004)



Professor Marko Branica, the leading Croatian marine scientist and physical chemist, passed away on November 17, 2004. He was born on January 14, 1931 in Zagreb, where he finished elementary (1941) and grammar school (1949). He graduated in 1956 from the Chemistry Department of the Faculty of Science and Mathematics in Zagreb with the degree-thesis in physical chemistry entitled *Determination of Traces of Uranium* (»Određivanje tragova urana«, Prirodoslovno-matematički fakultet, Zagreb, 1956.). He obtained his doctor's degree in 1963 at the Faculty of Science and Mathematics by defending

the doctoral thesis entitled *Extraction of Inorganic Ions with Organic Solvents* (»Ekstrakcija anorganskih iona organskim otapalima«, Prirodoslovno-matematički fakultet, Zagreb, 1963.) prepared under the supervision of Professor Božo Težak (1907–1980).

Branica spent his whole career (first as a technician, since 1954) at the Rugjer Bošković Institute, where he advanced as follows: research assistant (1956), research associate (1963), senior research associate (1966) and senior research fellow (1970, re-elected in 1998). He was appointed associate professor (1967) and full professor (1997) at the Faculty of Science and Mathematics in Zagreb, where he established and headed the graduate course in oceanography since 1971. More than 50 people prepared their M.Sc. and/or Ph.D. theses under his supervision.

Branica served as a head of the Laboratory of Physical-Chemical Separations (1967–1984) and the Laboratory for Physical Chemistry of Traces within the Center for Marine Research (since 1986) and director of the Center (1974–1984). He coordinated the project of research and environmental protection of the Adriatic Sea and the relevant international research contracts. As an expert of the International Atomic Energy Agency of Vienna for nuclear materials and nuclear plants safety problems, he paid multiple visits to Rio de Janeiro, Brazil (1972, 1975, 1979) and Lima, Peru (1973). As a UNESCO expert, he developed the research programs for chemical oceanography in Athens and Paris (1978) and the United Nation Agency development program for the Oceanographic Institute in Athens. Since 1992 he was vice-president of CIESM (Monaco) and represented the Republic of Croatia in this inter-governmental research organization. He also chaired the Organizing Committee of the host country of the 35th CIESM Congress, held in Cavtat in June 1998.

He was a member of the Croatian Chemical Society, Polarographic Society of London, National Mediterranean Research Commission, Marine Physics and Chemistry Committee, and Marine Radioactivity Committee within the International Mediterranean Research Commission, Marine Chemistry Committee of the International Association for Oceanographic Physical Sciences, chairman of the Marine Chemistry Committee of the In-

ternational Mediterranean Research Commission, Academia Europaea (London, since 1992) and Academia Scientiarum et Artium Europaea (Salzburg, since 1992). He was a member of the editorial boards of international scientific journals *Ocean Science and Engineering* (since 1976), *Marine Chemistry* (1982–1992; guest editor of six special issues), and *Chemical Speciation and Bioavailability* (since 1989). He was awarded the Rugjer Bošković state award for science (1982), the Amsterdam Prize for the Environment of the Netherlands Royal Academy of Arts and Sciences (1992) and the national Life-achievement Award for chemistry (1996). He established biennial international symposia *Chemistry of the Mediterranean*, fourteen of which have taken place to date.

Branica was engaged in electrochemical research (polarography and voltammetry of metal ions and complexes, surface active substances, and analysis of trace elements), hydrolysis and precipitation, extraction of inorganic substances with organic solvents, he developed a procedure for preparation of uranium dioxide by electrochemical reduction in alkaline carbonate solutions (with Zvonimir Pučar (1922–1989) and Velimir Pravdić), uranium separation processes using electrolysis, precipitation, coprecipitation and hydrolysis, physical chemistry of seawater, physicochemical characterizations and biochemical cycles of microconstituents in fresh and sea waters (natural and contaminated). He also produced technical studies on the protection and improvement of the environment. In this field he published more than 250 papers (and 9 patents) and is one of the most prolific Croatian chemists ever. His papers are extensively cited, making him one of the most cited Croatian chemists. It is therefore not surprising that he participated as invited speaker in all major international conferences on waters, seas and the environment, e.g., *Gordon Research Conferences – Chemical Oceanography* (Santa Barbara, 1971, 1974; New Haven, 1978; Ventura, 1983), *The First and*

*Second Conferences on the Chemistry and of Tropical Marine Systems* (Rio de Janeiro, 1985, 1987), *Modern Chemistry and Chemical Technology Applied to the Ocean and Its Resources* (Keystone, Colorado, 1987), *Progress in Marine Chemistry* (Washington, 1990), *Euroenvironment* (Budapest, 1992), *East-West Workshop on Water Quality* (Stony Brook, 1992), *European River and Ocean Systems* (Palma de Mallorca, 1994), *Fifth European Conference on Electroanalysis* (Venice, 1994), *Mediterraneanchem* (Taranto, 1995), *International School of Marine Chemistry* (Ustica, 1996), etc.

To mark his 65<sup>th</sup> birthday, Croatian Chemical Society dedicated a special issue of *Croatica Chemica Acta* (Volume 70, No. 1; guest editors Božena Čosović and Vera Žutić) to marine chemistry.

I have known Marko Branica since the days he was a waterpolo player. In his youth, he used to play waterpolo at the competitive level. Later when I joined the Rugjer Bošković Institute (1962), we talked a lot since I did degree-thesis research in polarography and he was also doing research in polarography at that time. Besides, I gave a talk at the Institute on the polarography of organic compounds using, according to him, an outdated polarographic technique. This was a splendid ground for many of our heated debates that he enjoyed so much. Four years later (1966) I moved from the Department of Organic Chemistry to the Department of Physical Chemistry. At that time his laboratory was also in the same department and we intensified our discussion and debates on all kinds of topics until he and his people moved to the newly established Department of Marine Science. Even after that we continued our discussions and often disputes until the very end of his days at the Institute. He was a wonderful person for discussions and debates and I have learned a lot from him about the art of arguing.

Nenad Trinajstić