## Prof. Dr. Sc. Zvonimir Maksić, distinguished scientist (September 11, 1938 – March 27, 2011)



## To the memory of Professor Zvonimir Maksić

Zvonimir Branko Maksić, Croatia's leading and worldwide known and appreciated quantum chemist, passed suddenly away at the age of 73 on 27 March 2011. This sad event ended abruptly 48 years of an active and fruitful scientific career and left the scientific community and all those who knew, appreciated and loved him in grief and with a feeling of great loss. To his last days he was full of energy, scientifically, socially, administratively productive and sincerely concerned with the excellence of scientific research in Croatia. We shall all miss him deeply.

Although all his professional life he had been affiliated to the Ruđer Bošković Institute in Zagreb, Croatia, he like most great scientists, extensively kept cooperating with numerous scientists, groups and Institutions home and abroad: first attending specialized Summer and Winter schools, then as a postdoc and guest scientist, finally many times invited as a guest or visiting professor, and project or meeting leader. His compulsory retirement at the age of 65 in 2004 did not change his involvement. He actually continued working both at the Institute and as professor at the University of Zagreb, which the Institute honored by electing him distinguished scientist (emeritus scientist) in 2005, one who could continue to lead research projects.

All started when he, as one of the best students of theoretical physics at the Faculty of Science in Zagreb, received a Ruđer Bošković scholarship, which enabled him to finish his bachelor thesis with Professor Milan Randić at the Institute in 1962 and to get afterwards in 1963 employed as a graduate student in Randić's newly formed Theoretical Chemistry Group in the Division of Physical Chemistry. The 1960s were a great time for quantum chemistry in Europe, where it became clear that this branch of science combining chemistry and physics had been greatly underdeveloped. Substantial funds were allocated to educate young promising scientists by offering about hundred of them scholarships to attend 2- to 4-week Summer or Winter school in Konstanz (Germany), Uppsala (Sweden), Menton (France), or Sanibel (Florida, USA). World's leading experts were invited as teachers and several Croatian scientists, Maksić among them, got introduced to new horizons and met there on these occasions the actual and future experts in the field.

Maksić defended his PhD thesis on 'Some problems on electronic structure of complexes' (with Randić) in 1968 when he also convinced Mirjana Eckert to become his wife. She was also a Ruđer Bošković Institute scholar and worked as a graduate student with distinguished organic chemist Professor Dionis Sunko in his Division of Organic Chemistry. The future showed that they were a perfect match both emotionally and personally as well as professionally because they had a harmonious marriage blessed with a successful son Zoran, and because it was a lucky coincidence of bringing together a fresh graduated theoretical physicist in chemistry and a young talented organic chemist to start exchanging scientific ideas and results. According to the WoS, they published jointly 76 scientific papers and Dr Mirjana Eckert-Maksić is now one of our leading physical organic chemists.

After 1968 Maksić went through the standard steps, however, faster than usual, of a scientific career in Croatia. Thus, he left in 1970 to pursue postdoctoral studies at the University of Tennessee in Knoxville, USA, under John Bloor and spent 1972/73 at the University of Texas in Austin, USA, working with Michael J. S. Dewar. After returning to Croatia in 1973, he became a research associate and then associate professor, then in 1978 research adviser at the Ruđer Bošković Institute and in 1979 full professor at the Faculty of Science in Zagreb. As mentioned, until 2004 he worked at both institutions, successfully combining his extremely productive scientific work with the duties and obligations of a professor of undergraduate and graduate studies. As his research became more ori-

ented towards organic chemistry, he moved organizationally from the Division of Physical Chemistry and established the Quantum Organic Chemistry Group at the Division of Organic Chemistry and Biochemistry of the Ruđer Bošković Institute.

The areas of research in which Professor Maksić achieved significant results include molecular physics, theoretical chemistry and computational chemistry. He also worked on modelling hybridization in molecules, the electron-correlation problem in quantum chemistry, the nature of chemical bonding, the chemistry of acids and bases, and the design of new molecules with targeted chemical properties, to name only a few of his interests. The long list of Maksic's publications in distinguished international journals testifies to his scientific excellence as well as dedicated and continuous service. He published over 250 original research articles, 23 review articles and chapters in monographs, which have been cited over 3500 times. He wrote two books: Kvantna kemija (Quantum Chemistry, Liber, Zagreb, 1976) and Simetrija u kemiji (Symmetry in Chemistry, Školska knjiga, Zagreb, 1979, in collaboration with N. Trinajstić and L. Klasinc). He attempted to convey his enthusiasm, creativity, perseverance in work and scientific excellence to students and junior colleagues, which resulted in a large number of defended bachelor's, master's and doctoral theses. He organized international scientific conferences in Croatia and elsewhere, and was a member of the editorial boards of distinguished scientific journals. Also, he edited for Ellis Horwood a book: Modelling of Structure and Properties of Molecules (1987), a series of books Theoretical Models of Chemical Bonding (4 volumes, published in 1990/91) for Springer Verlag, and a series of books Theoretical and Computational Chemistry (with P. Politzer, 16 volumes from 1994 to the present) for Ellis Horwood.

Professor Maksić was the recipient of many major awards: the City of Zagreb Award for Outstanding Achievements in Scientific Research in 1976, the Ruder Bošković Award for Scientific Excellence in 1987, the Medallion of the Chemistry Department of the Faculty of Science in 2005, the National Lifetime Achievement Award in the Field of Natural Sciences in 2008, and a plaque for his 'pioneering contribution to the understanding of chemical bonds' on the occasion of his delivery of the Charles A. Coulson Lecture at the University of Georgia in Athens in 2008. As a recipient of the prestigious Alexander von Humboldt Fellowship, he spent the period from 1979 to 1981 as a visiting professor at the Institute of Organic Chemistry, University of Heidelberg, Germany. He also served as a visiting professor and scientist at the University of Münster, Germany, and the University of Madrid in Cantoblanco, Spain, and was invited to lecture at many other universities and institutes across Europe and beyond. Professor Maksić served as the President of the Croatian Chemical Society (1988–1990), Head of the Department of Chemistry at the Ruder Bošković Institute (1995–1997), Deputy Director General of the Ruđer Bošković Institute (1997-1999) and a Member of the Board of Governors of the Ruđer Bošković Institute for two terms. He was the promoter of the Honoris Causa Doctorate for the twice Nobel laureate Linus Pauling in 1988 at the University of Zagreb. Another Professor Maksić's important achievement is certainly his contribution to the genesis of the 'Appeal for Peace in Croatia' written in September 1991, for which he procured the signature of Linus Pauling, who was the first to sign it, and particularly his 'Appeal for Peace in Bosnia and Herzegovina and Stability in the Balkans' written in May 1992 and signed by 84 Nobel laureates. Among them were Abdus Salam, as the first to sign, Vladimir Prelog and Linus Pauling, with whom Professor Maksić shared a long collegial friendship.

So much more could be said, and thinking about this exceptionally exuberant personality, his achievements and numerous contributions to the world of science, one cannot but regret the brevity of human life and hope that in the canopy of common striving for scientific truth his name will go on shining.

Leo Klasinc