



IN MEMORIAM: Professor Goran Bačić, PhD, 1951 - 2016

Prof. Goran Bačić obtained his PhD at the University of Belgrade – Faculty of Physical Chemistry in 1985. As a British Council stipendist he did his postdoc in the field of NMR applications to biological systems at the University of Oxford, UK. During his stay at the University of Illinois, USA from 1986 – 1988, as a visiting scientist, he worked closely with prof. Paul C. Lauterbur, the Nobel prize laureate for physiology and medicine (2003) for magnetic resonance imaging. Prof. Bačić was one of the pioneers of the electron paramagnetic resonance (EPR) applications, such as EPR oxymetry, *in vivo* EPR, EPR microscopy and 2D/3D EPR imaging. From 1989 – 1992 he was the director of the Center for magnetic resonance of the Clinical Center of Serbia, devoting his time to the education of young radiologists and the development of MR techniques. From 1992 – 1994 he was a visiting professor at the Dartmouth Medical Faculty, USA where he continued to develop EPR techniques. His main goal was to integrate EPR and MRI in the investigation of different pathologies on animal models. From 1995 – 2003 he was the scientific director at the Institute of Oncology and Radiology, Serbia, mainly working on the development of MRI techniques for the detection and differentiation of various tumors. During the last decade, he dedicated his work to the investigation of diagnostic MRI biomarkers for neurodegenerative and malignant diseases; early assesment of chemotherapy response; new radioprotective agents; improvement of EPR detection of free radicals in biological systems. He has published more than 130 papers and has over 1200 citations. He was one of the founders of the Society of Physical Chemists of Serbia, member of the Biophysical Society of Serbia and the International EPR Society. At the Faculty of Physical Chemistry he taught several courses, among which Biophysical chemistry, Physicochemical methods in biomedicine and Radiation biology.

His main scientific achievements are:

The first EPR oxymetry imaging experiment - G.Bačić, F.Demsar, Z.Zolnai and H.M.Swartz. Contrast enhancement in ESR imaging: Role of oxygen. *Magn.Reson.Med.Biol.* 1(1988)55-65.

The first 3D EPR imaging experiment - R.K.Woods, G.Bačić, P.C.Lauterbur, and H.M.Swartz. Three dimensional electron spin resonance imaging. *J.Magn.Reson.* 84(1989)247-254.

The first noninvasive *in vivo* EPR experiment - G.Bačić, M.J.Nilges, R.L.Magin, T.Walczak, and H.M.Swartz. In vivo localized ESR spectroscopy reflecting metabolism. *Magn.Reson.Med.* 10(1989)266-272 .

The first high resolution EPR microscopy of a biological sample - J.W.Dobrucki, F.Demsar, T.Walczak, R.K.Woods, G. Bačić and H.M.Swartz. Electron spin resonance microscopy of an in vitro tumor model. *Brit.J.Cancer* 61(1990)221-224.