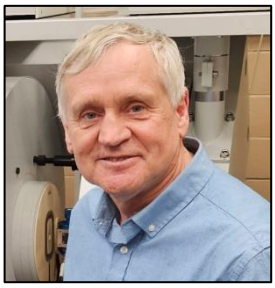
Prof. Dr. Valery Khramtsov, DSc

Valery Khramtsov received his PhD degree in physical chemistry and biophysics from Institute of Chemical Kinetics & Combustion (ICK&C), Russian Academy of Science, in 1986. After his postdoctoral work supported by Humboldt Research fellowship at Max-Plank-Institute of Biophysical Chemistry (Göttingen, Germany), in 1989-1991, he served as a Chair of Biophysical Group at ICK&C (Novosibirsk, Russia). Dr. Khramtsov received his DSc degree in chemistry and spectroscopy from Institute of Catalysis, Novosibirsk, Russia in 1993. In 2001 he moved to the Ohio State University (Columbus, OH, USA), and then in 2015 to West Virginia University (Morgantown, WV) as Professor at Department of Biochemistry and Molecular Medicine. There he is a Founding Director of a new "In vivo Multifunctional Magnetic Resonance (IMMR) center" (http://www.hsc.wvu.edu/immr/) with the capability for in vivo imaging using multimodality instrumentation (CW and pulsed EPR/MRI/OMRI) and multifunctional molecular probes. He has authored over 170 peer-reviewed articles and book chapters dealing with free radical biomedicine and magnetic resonance applications to chemistry and biology.



Prof. Khramtsov devoted more than 40 years of his research to the development of non-invasive magnetic resonance methods for measurement of various physiologically relevant parameters. As a first or senior author, he pioneered paramagnetic probes and corresponding approaches for measurement of pH, biological thiols, such as glutathione, and probes of dual and multiple functionality. Recently his lab actively develops EPR- and NMR-based approaches for multifunctional monitoring of tissue microenvironment in animal model of diseases, such as cancer and ischemic heart disease, including development of *in vivo* imaging techniques such as low-field EPR imaging and proton-electron-double-resonance imaging (PEDRI).

Current focus of Dr. Khramtsov research is development of innovative magnetic resonance technologies and applications to multifunctional *in vivo* tumor tissue analysis for obtaining knowledge on the role of tumor microenvironment (TME) in tumor progression and therapy. The developed multifunctional *in vivo* tissue microenvironment monitoring using specially designed paramagnetic probes may find applications well beyond cancer area in preclinical studies in various animal models of disease.