

80<sup>TH</sup> BIRTHDAY ANNIVERSARY OF BORIS GRIGORIEVICH ERSHOV,  
CORRESPONDING MEMBER OF THE RUSSIAN ACADEMY OF SCIENCES

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On February 1, 2019, Boris Grigorievich Ershov, member of the editorial board of the *Radioactive Waste Journal* and corresponding member of the Russian Academy of Sciences, celebrated his 80th birthday anniversary. Career path of this distinguished scholar in the field of high energy chemistry, radiochemistry and physical chemistry is quite neat – following the graduation from the Department of Chemistry of the Moscow State University his multidimensional scientific activities were associated with the Institute of Physical Chemistry and Electrochemistry of the Russian Academy of Sciences. In 1981, he headed a laboratory. Then for 15 years, he was deputy director of the Institute, since 2017 he has been running a scientific department of the Institute performing research in the field of radiochemistry, radioecology and radiation chemistry.

B.G. Ershov and researchers working under his leadership have demonstrated and theoretically substantiated many phenomena associated with the interaction of ionizing radiation with matter. In 1986, B.G. Ershov presenting his research team, was awarded the USSR State Prize for a series of papers titled “Metal compounds under previously unknown oxidation states, study of their properties and applications”. He is known to be the author of three monographs and over 350 scientific papers including a great number of those written jointly with the engagement of world leading experts.

Highly valued by the editorial board of the *Journal*, are BG Ershov’s in-depth research and developments in the field of nuclear and radiation technologies and radioactive waste management. This scholar and his students have developed a generalized mathematical model describing evolution and accumulation of hydrogen and oxygen in water-water nuclear facilities enabling to demonstrate the safety of their operation modes. This

research team is also being involved in the development of diffusion-kinetic model of radiation chemical transformations occurring in liquid radioactive waste (LRW). Comprehensive studies of the radiation resistance of cement materials used for LRW immobilization are being carried out. Radiation, thermal and microbiological transformations of nitrates, carbonates, acetates, oxalates and other compounds into volatile products are studied under conditions similar to those characteristic for LRW disposal in geological formations. Engineering solutions suggesting low-level LRW treatment by combined destruction of organic components by ozone and UV light have been proposed for PA Mayak and Radon sites.

It’s believed to be of a fundamental importance that most of the scientific achievements of B. G. Ershov and his team have been implemented in practice. These were used as a basis to demonstrate the safety of operating LRW disposal facilities, for making decisions on the conservation of industrial uranium-graphite reactor EI-2 and many other nuclear facilities and sites.

Boris Grigorievich has plenty of innovative ideas and aspirations. He was among the first major scientists who felt the need for a substantial development of radioactive waste management system in Russia and the associated scientific support. In 2012, he proposed to establish a scientific conference on the fundamental aspects of RW safe disposal in geological formations successfully held in autumn 2013 at the Institute of Physics and Energy of the Russian Academy of Sciences.

B. G. Ershov is extensively engaged in large-scale scientific, managerial, research and educational activities. He heads the Radiation Chemistry and Technology Section of the Physical Chemistry Scientific Council run under the Presidium of the Russian Academy of Sciences. He also runs the Section of the Academic Council on Radiochemistry and Radiation Chemistry in the Institute of Physical Chemistry of the Russian Academy of Sciences, parallelly being the vice-chairman of several specialized scientific councils, member of the Scientific and Technical Council Number 5 of the State Corporation Rosatom. B.G. Ershov is actively engaged in the activities performed under the Section No. 1 corresponding to the thematic Section No. 1 on Ecological and Radiation Safety of Long-Term Storage, Conservation and Disposal Facilities for Radioactive Waste run under the frames of the Scientific and Technical Council No. 10 “Ecology and Radiation Safety” of the State Corporation Rosatom.

In addition to our *Journal*, B. G. Ershov is editorial board member of two other journals: *High Energy Chemistry* and *Radiochemistry*. Ershov pays great attention to scientific personnel training and heads the basic department of General Chemistry, Radiochemistry and Radiation Chemistry operated by the Scientific and Educational Center of the Institute of Physical Chemistry and Energy.

Editorial board of the *Journal* warmly congratulates Boris Grigorievich Ershov on his 80th birthday anniversary with heartily wishes of good health and new creative achievements.