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N. W. Timofeeff-Ressovsky
«MODERN PROBLEMS OF GENETICS, RADIOBIOLOGY,
RADIOECOLOGY AND EVOLUTION»

Third Readings after V. I. Korogodin & V. A. Shevchenko

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DEVELOPMENT OF N.V. TIMOFEEFF-RESSOVSKY IDEAS BY URALS SCHOOLS OF RADIOECOLOGY

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Laboratory of biophysics and radiation biogeocenology was created by N.V. Timofeeff-Ressovsky into Institute of Biology, Ural Branch of Academy of Science in 1955. He is one of the founders of a new scientific discipline – the radiation biogeocenology (radioecology). N.V. Timofeeff-Ressovsky was wording the tasks of this scientific direction as in detail as on a large-scale. Realization and development of N.V. Timofeeff-Ressovsky ideas are widely represented in the scientific works his pupils and followers. They formed the Ural scientific of N.V. Timofeeff-Ressovsky School. Briefly estimating the whole passed way we can pick out two directions of researches. They are as follows. 1. Investigation of the mechanisms migration, accumulation and distribution of radionuclides in freshwater ecosystems. Within the framework of this direction there are carried a large-scale investigations of accumulation levels, distribution and migration of ^{90}Sr ^{137}Cs , $^{239,240}\text{Pu}$ in the Ob-Irtysh river ecosystem comprising territories in the Urals and Khanty-Mansisky national region. There were carried out of several years' radioecological investigations of the Beloyarsk nuclear power plant influence on the state of the cooling pond and other ecosystems. Detailed radioecological researches of the lakes contaminated as a result of the Kyshtym accident in 1957 upon nuclear enterprise "MAYK" in the Urals were carried out. It was fulfilled the monitoring investigation of the ^3H contents in the water ecosystems, situated in the influence zones of the atomic enterprises in the Urals. 2. Investigation of the influence of the nuclear fuel cycles enterprises on terrestrial ecosystems situated in the different regions of Russia (Yakutia, Urals) and Ukraine (Chernobyl). Such investigations include as determination of contamination levels in the different soil-cover components as estimate biological effects. The more scales radioecological investigations were carried out in the Eastern Urals Radioactive Trace (EURT). Radionuclides contents in soil and plant cover of the study area were determined. Total radionuclides store in EURT soils calculated; doze loads on some herbaceous plants evaluated. The aspects of flora diversity within EURT addressed and also the results enable to evaluate long-term effects of radiation and identify plant adaptations to the conditions of permanent ionizing radiation are given.