

CHRONICLE AND INFORMATION

**IN MEMORIAM: NIKOLAI RISIK**  
**(07.08.1937 – 11.12.2021)**



On 11 December, 2021, PhD Nikolai Risik passed away at the age of 85 – a well-known radiobiologist and one of the oldest employees of the IBSS radiation and chemical biology department.

N. Risik was born on 7 August, 1937, in the village of Milcha (the Vileyka District of Minsk Region, the Byelorussian SSR). His family survived the terrible years of the fascist occupation, and in the post-war period, realizing that his relatives needed support, 15-year-old Nikolai Risik entered an agricultural college (1952–1956). After graduating, he worked for a year as a collective farm agronomist (1956–1957).

He always dreamed of becoming a researcher. Hence, after serving in the Soviet Army (1957–1960), he entered the Lenin Belarusian State University in Minsk and proved to be a talented scientist. After graduating, he was invited to work at his native university as a researcher assistant at the biochemistry and biophysics department (1965–1966). During the studies and work at the Belarusian State University, N. Risik published 14 scientific papers.

His scientific fate was determined by his acquaintance with Gennady Polikarpov at the university. So, in 1966–1969, Nikolai Risik studied at the PhD graduate school in radiobiology at the IBSS (Sevastopol). In these three years, he discovered and investigated a new phenomenon – the accumulation of uranium atoms by hydrobionts. This research was widely supported by scientists from the USSR, the USA, and other countries. In 1970, N. Risik was awarded the medal “For Valiant Labor – In Commemoration of the 100<sup>th</sup> Anniversary of the Birth of Vladimir Ilyich Lenin”.

On 23 February, 1971, Nikolai Risik successfully defended his PhD thesis “Microdistribution and accumulation of uranium in hydrobionts”. On 7 April, 1971, he was awarded the candidate of biological sciences degree.

In 1969–1975, he was a junior researcher at the IBSS radiation and chemical biology department. Since 1975, he was a senior researcher. During the years of his work, N. Risik proved to be an excellent organizer of investigations and a responsible and proactive employee. Colleagues have always said that he is a kind and understanding person. Therefore, G. Polikarpov, the corresponding member of the Academy of Sciences of the Ukrainian SSR, departing on a long business trip to Monaco (1975–1979), entrusted Nikolai Risik to head the department. He coped brilliantly with this duty.

His international scientific activity was very intense as well. In 1976, as a UNESCO scholar, he worked at institutions of France and Monaco. In 1981–1982, he was on a business trip in Libya; there, by order of the all-Union association “Soyuzglavzagranatomenergo”, he carried out the assignment “Marine radioecological research in the Sirt NPP vicinity”. The economic effect of the work on this assignment and hydrobiological research conducted by the institute amounted to 100 thousand rubles. In 1986–1991, N. Risik supervised the assignment of the IBSS radiation and chemical biology department on Soviet–Bulgarian cooperation.

He deeply loved the sea and was an active participant of the cruises on the IBSS research vessels. In 1972, he was a member of the 26<sup>th</sup> cruise on the RV “Mikhail Lomonosov” to the Atlantic. In 1979, he headed the expedition during the 87<sup>th</sup> cruise on the RV “Akademik A. Kovalevsky”.

Scientific interests of Nikolai Risik covered the study – both in nature and in experiments with open radioisotopes (class II) – of the distribution forms of uranium and transuranium elements in the aquatic environment and in living marine and freshwater hydrobionts. Moreover, he worked on determining the dose loads from atom aggregates of uranium and transuranium elements in hydrobionts. For the high scientific and potentially applied significance of his works, N. Risik was awarded several diplomas and cash prizes. The material of his publications was presented at international and all-Union symposiums and meetings. He also participated in exhibitions of achievements of national economy of the USSR and the Ukrainian SSR.

He published more than 70 scientific articles in domestic and foreign journals on radioecology and chemoecology. In his works, many aspects of uranium radioecology in marine ecosystems were reflected. He studied diurnal shifts in uranium concentration in decapods, its accumulation in water basins of different salinity, uranium toxic effect on zooplankton and on vital activity of unicellular algae, and accumulation of thorium and other transuranium elements by hydrobionts. Nikolai Risik analyzed the accumulation of heavy metals both by individual species of marine organisms and by seston. After the Chernobyl NPP accident, several works were devoted to the issues of migration and distribution of technogenic radionuclides in the area of the Lower Dnieper, the North Crimean Canal, and Crimea.

He was the co-author of five collective monographs in radiobiology, marine radioecology, and related areas of marine biology. One of his early collective monographs – “Artificial and natural radionuclides in the life of hydrobionts” by V. Tsytugina, N. Risik, and G. Lazorenko (1973) – became a pioneer work in several areas in radioecology, got a wide response in the international scientific community, and was published in English (1975). His later papers were devoted to the study of plutonium radionuclides in marine ecosystems as well.

Nikolai Risik was in charge of the radioecological program of scientific and technical cooperation with “Krymenergo” on the Crimean NPP in the issues of environmental protection. The obtained results helped to prevent making an erroneous decision of NPP construction on the peninsula. In the hard years after the Chernobyl NPP accident (1986–1990), N. Risik, heading the radiochemoecology laboratory of the IBSS radiation and chemical biology department, supervised the works on radiation monitoring in Crimea. For decision-making, he developed and submitted to the Sevastopol City Executive Committee the recommendations on limiting the dose load on the population of Sevastopol and Crimea. Together with the city sanitary and epidemiological station staff, he carried out control of radioactive contamination of milk, baby food, and vegetables. To the Crimean Regional Executive Committee and the Sevastopol City Executive Committee, he sent data on the radiation in the vicinity of the Chernorechensk Reservoir and Maksimova dacha in 1986–1990.

He participated in the social activities of the institute. For several years, he was deputy secretary of the IBSS party bureau; in 1985, he was elected secretary of the party bureau of the IBSS primary party organization. In 1976–1980, Nikolai Risik was scientific secretary of the specialized scientific council of the IBSS for the defense of PhD theses in radiobiology and ichthyology. He was a practically permanent curator of the class II isotope laboratory at the IBSS radiation and chemical biology department. Moreover, he headed the radiation safety service of the institute, which was formed to ensure work with sources of ionizing radiation and radiation-dosimetry control in the radiobiological building and on the research vessels of the IBSS of the Academy of Sciences of the Ukrainian SSR.

All the colleagues, who were lucky to know this outstanding researcher, a kind-hearted friend, and a good family man, deeply mourn the untimely death of N. Risik.

The IBSS radiation and chemical biology department suffered an irreparable loss. We grieve, we will always remember Nikolai Risik, and we express our condolences to his family and friends.

*With great respect for Nikolai Risik,  
colleagues from the IBSS radiation and chemical biology department,  
N. Mirzoeva, head of the department, leading researcher, PhD,  
N. Tereshchenko, leading researcher, PhD.*

**ПАМЯТИ НИКОЛАЯ СИДОРОВИЧА РИСИКА  
(07.08.1937 – 11.12.2021)**

11 декабря 2021 г. ушёл из жизни Николай Сидорович Рисик — известный учёный-радиобиолог, кандидат биологических наук, один из старейших сотрудников отдела радиационной и химической биологии ФИЦ ИнБЮМ. Н. С. Рисик — автор более чем 70 научных статей и соавтор пяти коллективных монографий.