The State Institution «National Research Center for Radiation Medicine of the National Academy of Medical Sciences of Ukraine» informs with pain and sadness that a prominent scientist in the field of radiation medicine and epidemiology, Doctor of Medical Sciences, Professor Mykola I. Omelyanets passed away on September 16, 2021, at the age of 84.

Mykola I. Omelyanets was born on April 9, 1938 in the city of Kryvyi Rih, Dnipropetrovsk region.

After graduating the Sanitary and Hygienic Faculty of the Dnipropetrovsk Medical Institute with honours diploma in 1961 he worked as a physician in the Sanitary and Epidemiological Service of Tajikistan.

Since 1963 all subsequent work of M. I. Omelyanets was associated with science. In 1963–1966 he was a postgraduate student at the Kyiv Research Institute of General and Communal Hygiene (now the Institute of Public Health of the National Academy of Medical Sciences of Ukraine), in 1966–1967 he was a staff scientist, in 1967–1975 he was a Scientific Secretary, and in 1975–1981 – Head Laboratory of Radiation Hygiene and Extreme Environmental Conditions of the same institute. At the same time, he was Deputy

Микола Іванович народився 9 квітня 1938 р. у м. Кривий Ріг Дніпропетровської області.

Після закінчення з червоним дипломом у 1961 р. санітарно-гігієнічного факультету Дніпропетровського медичного інституту працював на посаді лікаря у санітарно-епідеміологічній службі Таджикистану.

Head of the Main Office of Research at the Ministry of Health of the Ukrainian SSR (1975–1979).

During this period, he was working actively in the field of water supply hygiene, radiation hygiene, and medical and ecological issues of environmental and public radiation protection related to the development of nuclear power generation industry.

According to the results of research in the field of water supply hygiene:

➢ the requirements were determined and the implementation of measures were substantiated for desalination of highly mineralized waters for domestic and drinking water supply in Ukraine;

➢ the issue of hygiene of obtaining and providing the water for drinking and washing the body, and of providing the air for breathing of spacecraft crews during long spaceflights from moisture-containing human waste and of the technical devices functioning was theoretically substantiated, experimentally confirmed and implemented in practice;

➢ the issues of hygiene of safe materials (metals, plastics) and reagents (for water purification, conditioning of water mineral composition, and water disinfection) application and use of devices for desalination and regeneration of drinking water were theoretically substantiated, experimentally developed and implemented in practice;

➢ methodology and substantiation of MPC in regenerated drinking water and air for respiration for a number of chemicals formed as products of human vital functions, and functioning of technical devices in hermetically sealed rooms were theoretically developed.

Systems for obtaining of water for drinking and washing the body, and air for breathing from moisture-containing wastes of human life were developed with the participation of M.I. Omelyanets which became the basis for long-term human space flights (providing crews of space stations «Salyut» and «Mir»).
Chyhyryn NPPs, a number of nuclear heating plants and nuclear industrial heating plants were rejected.

Scientific achievements in radiation hygiene and medical and ecological issues of environmental and population protection from radiation in connection with the development of nuclear power generation industry were:

- development of scientific bases for environmental protection in connection with the advances in nuclear power generation industry;
- development of hygienic justifications for the use of water from NPP cooling reservoirs for national economic purposes (commercial water supply, fish farming, wastewater discharges, etc.);
- improvement of the methodology of zero background measurements during NPP construction;
- ecological and hygienic substantiation of NPP locations.

According to the results of scientific developments, the implementation of the concept of expertise of development of nuclear power generation industry in Ukraine on the basis of ecological and hygienic criteria and radiation capacity of territories has been developed and started. Herewith the zoning of the territory of Ukraine was proposed on the basis of radiation-ecological criteria, which is important in addressing the development of national nuclear power generation industry so far. The use of water from NPP cooling ponds in economic activity was scientifically substantiated.

At the age of 36 M.I. Omelyanets became a Doctor of Medical Sciences, at the age of 39 became a Professor of Hygiene. In 2007 he became the Laureate of the State Prize of Ukraine in the field of science and technology for determining the mechanisms of radioinduced oncohematological and cancer effects of the Chornobyl disaster, development and implementation of the latest technologies of medical protection of survivors. He had supervised the postgraduate work of 1 doctor and 9 candidates of sciences.

During 1981–1986 Professor M.I. Omelyanets headed the Department of General Hygiene of the O.O. Bogomolets Memorial Kyiv National Medical University and provided training for the future physicists at the general medicine, pediatric, dental and sanitary departments. At the same time, he was Deputy Head of the Main Office of Research at the Ministry of Health of the Ukrainian SSR (1975–1979).

Since 1986, the scientific, scientific-organizational and practical activities of M.I. Omelyants were connected with the solution of hygienic, medical, medical-ecological and medical-demographic problems.
of environmental and public protection from the action of ionizing radiation after the Chornobyl disaster. During 1986–2006 he headed the Laboratory of Medical Demography at the Institute of Radiation Hygiene and Epidemiology of the NRCRM, in 2007–2017 he was the Chief Scientific Officer of this laboratory.

Scientific achievements in this area were:

➢ theoretical substantiation and implementation of methodology for determining the impact of a large-scale radiation accident on medical and demographic health indicators;

➢ substantiation of scientific bases of creation and functioning of registers of persons who were exposed to radiation as a result of the Chornobyl catastrophe;

➢ substantiation and implementation of scientific bases of resettlement of inhabitants from radioactive contaminated areas to the radiologically safe ones;

➢ substantiation and implementation of scientific bases of health protection of the Chornobyl catastrophe survivors;

➢ substantiation of creation and functioning of the monitoring system on medical and demographic consequences of the Chornobyl catastrophe;

➢ review and assessment of levels of environmental radioactive contamination and radiation doses to the population and determination of the health effects.

The results of inventions in this scientific field have been widely introduced in practice and were reflected in:

➢ the All-Union Distribution Register of Persons Exposed to Ionizing Radiation as a Result of the Chornobyl NPP Accident established in 1986–1987, and in the State Register of Persons Affected by the Chornobyl Disaster established later in the independent Ukraine;

➢ Laws of Ukraine «On the status and social protection of citizens affected by the Chornobyl disaster» and «On protection of humans from the effects of ionizing radiation»;

➢ hygienic standard «Permissible levels of 137Cs and 90Sr radionuclide content in food and drinking water» (DR-2006);

➢ estimates of thyroid radiation levels from iodine radionuclides, which became the basis to attribute almost a million children to the disaster survivors in the country;

➢ National program for overcoming the consequences of the Chornobyl disaster for 2006–2010 period (approved by the Law of Ukraine on March 6, 2006);

➢ two editions of the Collection of Legislative and
Normative Documents for 1991–2000 period, i.e. «Social, Medical and Radiation Protection of Survivors of the Chornobyl Disaster» in Ukraine, and also in the statistical reference books, departmental instructions, methodical recommendations and analytical references.

Professor M.I. Omelyanets had participated personally in the clean-up activities of the consequences of the Chornobyl catastrophe in 1986, and later worked in the National Commission for Radiation Protection of Ukraine under the Verkhovna Rada (Parliament) of Ukraine (in 1991–2010 he was a member and deputy chairman of the Commission).

For many years Professor M.I. Omelyanets was a member of the Specialized Scientific Council #D 26.604.01 at the State Institution «O.M. Marzeev Memorial Institute of Public Health of the National Academy of Medical Sciences of Ukraine».

The results of research by Professor M.I. Omelyanets have been published in more than 450 scientific papers, including 20 monographs, and 7 certificates of authorship. They have become the basis for many government decisions aimed at minimizing the consequences of the disaster, improving the demographic situation, health protection of the Chornobyl NPP accident survivors.

We sincerely express our deepest condolences to the family and friends and share your pain and sorrow with all our hearts.

Mykola I. Omelyanets will be remembered as a sincere man, a talented leader and teacher who enjoyed high authority and respect. Scientists will always have a bright memory of him, of his wonderful human features, his kindness, benevolence and friendliness, love to near and dear ones, and devotion to the chosen cause.