



58th Meeting of the Society for Low Temperature Biology Kharkiv, Ukraine  
13-15th September 2022

The logo for the SLTB meeting planned for Kharkiv, Ukraine.

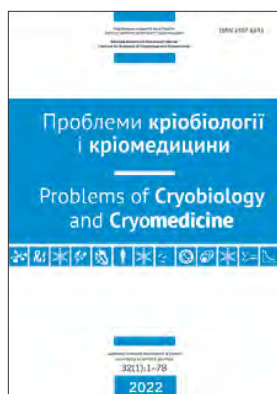
# CELEBRATING 50 YEARS OF THE INSTITUTE FOR PROBLEMS OF CRYOBIOLOGY AND CRYOMEDICINE



Head of ILTP&E Boris Verkin and first Head of IPC&C Nikolay Pushkar



Prof. Alexander Petrenko,  
Director of the IPC&C.



IPC&C Journal Problems of  
Cryobiology and Cryomedicine.

This year marks the 50th anniversary of the world-recognized Institute for Problems of Cryobiology and Cryomedicine (IPC&C) of the National Academy of Sciences of Ukraine (NASU). Together with the Society for Low Temperature Biology (SLTB) we planned to organize a joint celebration of the 50th Anniversary alongside the 58th Meeting of the SLTB, expecting it to be held in September 2022 in Kharkiv, Ukraine. Both the IPC&C and SLTB are pleased to join with the Society for Cryobiology to collaborate on CRYO2022 and bring the planned 50th Anniversary celebrations to fruition despite the Russian invasion and ongoing war in Ukraine.

One of the main targets of Russian attacks is the home of IPC&C, Kharkiv. Russian troops are continuously bombing the city, destroying unique architectural historical buildings, educational and scientific institutes, schools, and residential buildings. As a result, the infrastructure of the city is damaged: there is no stable transport, communication and supply of food and fuel. Many IPC&C employees have been forced to leave Kharkiv to go abroad or to the Western regions of Ukraine, and work remotely.

The greatest challenge now is to retain and strengthen the outstanding research team of IPC&C, which has unique history and achievements to allow the Institute to resume its important work when the war is over.

The IPC&C was founded in 1972 by a team of physicists from the Institute for Low Temperature Physics and Engineering (ILTP&E) of NASU and scientists with medical and biological education from the laboratory for Low-Temperature Preservation of Bone Marrow and Blood.

The main priorities of the research activity of the IPC&C have been specified as:

- study of the mechanisms of cryodamage and cryoprotection of biological samples of different levels of organization;
- development of cryopreservation protocols;
- application of hypothermia, cryotherapy and cryopreserved biological samples in various sectors of the economy.

Since the 1990's the main scientific activities of the Institute have been complemented by stem cell research, regenerative medicine and cell therapy.

IPC&C consists of 15 research and 4 support departments. The Low Temperature Bank of the IPC&C contains a wide range of cryopreserved biological samples: from microorganisms to plant and mammalian cells and tissues. The cryobank stores unique collections of sperm from commercial fish species, seeds of plants that are listed in the Red Book, cultures of microalgae, human umbilical cord



A gathering at the annual young scientist conference *Cold in Biology and Medicine*, an initiative of the IPC&C and UNESCO Chair in Cryobiology.

blood cells, bone marrow cells and stem cells from other unique sources. The low-temperature bank of the IPC&C is listed as part of the National Heritage of Ukraine.

In 1985 the Institute established the open-access journal “Problems of Cryobiology and Cryomedicine” (<http://journal.cryo.org.ua/index.php/probl-cryobiol-cryomed>), which is currently indexed in Scopus.

In 1998, thanks to the huge energy and enormous efforts of Prof. Colin J. Green, Prof. Barry J. Fuller and Prof. Valentyn I. Grischenko, the UNESCO Chair in Cryobiology was established, which provides invaluable support to young researchers. Under the umbrella of the UNESCO Chair, the Institute organizes an annual young scientists’ conference “Cold in Biology and Medicine”.

The IPC&C also offers a four-year PhD program in two specialties: Cryobiology or Cryomedicine. More than 200 candidates have been awarded the highest

academic degrees of PhD or DSc. Many scientists from the IPC&C are engaged in teaching in different Universities in Kharkiv.

The Institute has wide and strong international contacts, and collaborates with many Universities and research institutes worldwide. Employees of the Institute participated in Arctic and Antarctic expeditions in the frames of the National Antarctic Scientific Center programs.

IPC&C researchers have been awarded the State Prizes of Ukraine five times, published more than 3,000 peer-reviewed journal/conference papers and 80 monographs, as well as produced 367 patents.

Since its establishment, the IPC&C remains a unique institution in the field of cryobiology in Ukraine and beyond. Scientists of IPC&C strongly believe that the joint efforts of the World Cryobiology Community will allow us to overcome the current threats and support the further development of the cryobiology field in Ukraine.



The Institute for Problems of Cryobiology and Cryomedicine.



The 21st Ukrainian Antarctic Expedition.