



current problems of **cryobiology & cryomedicine**

Scientific conference devoted to the 40th
Anniversary of the Institute for Problems
of Cryobiology and Cryomedicine

Kharkov, October the 18–19th, 2012

program

Organizing Committee

Goltsev A.N. Academician of the National Academy of Sciences of Ukraine, director of the Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, chairman of Organizing Committee

Komisarenko S.V. Academician of the National Academy of Sciences of Ukraine, Academician-secretary of the Department of biochemistry, physiology and molecular biology of the National Academy of Sciences of Ukraine

Lesovoy V.N. Corresponding member of the National Academy of Medical Sciences of Ukraine, rector of the Kharkov National Medical University

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Seminozhenko V.P. Director of the Institute for Single Crystals, Kharkov

Gordienko E.A. Corresponding member of the National Academy of Sciences of Ukraine, Deputy Director for Science of the Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, vice-chairman of Organizing Committee

Babychuk G.A. Professor, Deputy Director for Science of the Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, vice-chairman of Organizing Committee

Fuller B. Professor, foreign member of the National Academy of Sciences of Ukraine (United Kingdom)

Green C. Professor, foreign member of the National Academy of Sciences of Ukraine (United Kingdom)

Sumida S. Professor of UNESCO chair (Japan)

Baust J. Professor of UNESCO chair (USA)

Sandomirsky B.P. Professor the head of department of the Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine

Yurchenko T.N. Professor the head of department of the Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine

Petrenko A.Yu. Professor the head of department of the Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine

Garbuz V.I. Secretary of Organizing Committee

Gotsulyak Ya.N. Secretary of Organizing Committee

Address of Organizing Committee:

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Conference timetable

Registration:

Registration of conference attendees and guests will be held on the 18th-19th October, 2012 from 8:00 in the hall of Kharkov National Medical University of Ministry of Health Care of Ukraine (4, Lenin Ave., Kharkov).

Conference will be held in the Assembly Hall and lecture rooms of Kharkov National Medical University.

Conference opening: October 18th at 10:00

Scientific meetings: October 18th-19th

Social event: October 18th at 18:00

Exhibition of medical, biological equipment and medicinal

preparations: October 18th-19th

Conference closing : October 19th.

Conference languages: Ukrainian, Russian and English

Instructions for demonstration material presentation:

Organizing committee provides lecturers with multimedia projector.

Multimedia presentations as files either in CD or Flash should be given not later than 1 hr before corresponding session beginning.

Accommodation:

Organizing committee is booking the rooms for conference participants. You are kindly requested to confirm the necessity of hotel booking to the October 17th 2012 by the phone: (+38057) 373-31-41 - Nardid Oleg Anatolyevich.

How to get to the conference?

By metro from Kharkov railway station to "Sovetskaya" metro station, then junction to the "Historical Museum" and 1 stop to the "University".

From Kharkov airport by bus N119 to "Derzhprom" station.

October 18th - 19th

Timetable of meetings

	October 18 th (Thursday)		
10:00	Conference opening. Assembly hall. Page 5		
11:30	Plenary meeting. Assembly hall. Page 5		
13:00	Lunch time		
14:00	Plenary meeting. Assembly hall. Page 6		
16:00	UNESCO Chair for Cryobiology meeting. Page 7		
18:00	Banquet		
	October 19 th (Friday)		
9:00	Session 1*. Assembly hall. Page 8	Session 2*. Lecture room 1. Page 10	Session 3*. Lecture room 2. Page 12
13:00	Lunch time		
13:40	Sponsor presentations. Page 14		
14:00	Session 4*. Assembly hall. Page 15	Session 5*. Lecture room 1. Page 17	Session 6*. Lecture room 2. Page 19
16:00	Poster session#. Entry of Assembly hall. Page 21		
17:00	Conference closing. Page 26		

- * **Session 1.** General issues of cryobiology.
Session 2. Cryomedicine, transplantology. Cryotechnologies in medicine.
Session 3. Low temperature preservation and cold storage of cells, tissues and organs
Session 4. Stem cells. Tissue engineering. Cell and tissue therapy
Session 5. Cold adaptation. Hypothermia. Cryotherapy.
Session 6. Preservation and application of cord blood and its components .

Posters are set up in October 18th from 10:00 (according to the number in program). During poster session (October 19th from 16:00 to 17:00) presenting authors must be near their posters.

October 18th (Thursday)

Assembly hall

Morning session

- 10:00 Conference opening**
 Greetings from the Presidium of National Academy of Sciences of Ukraine
 Greetings from the Vice-Minister of the Ministry of Health Care of Ukraine
 Greetings from Regional and City Administrations
 Greetings from the Coordinator of UNESCO Chair
 Greetings from Kharkov National Medical University
 Greetings from Honorary Guests
 Awarding of veterans
- 11:00 Coffee-break** 30 min
- 11:30 Plenary reports**
Headed by: Academician of the National Academy of Sciences
 A.N. Goltsev,
 Prof. John G. Baust, Prof. Colin J. Green, Prof. S. Sumida,
 Prof. B. Fuller
Secretary: G.A. Bozhok
- 1. Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine: History, Present, Future** 30 min
 A.N. Goltsev
Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov, Ukraine
- 2. Cryoablation: Apoptotic Phase Shifting and Cryo-Sensitization.** 30 min
 John G. Baust
Institute of Biomedical Technology, State University of New York, Binghamton, NY, USA
- 3. Viability and Differentiation of Bone Marrow Hematopoietic and Mesenchymal Stem Cells Cryopreserved at -196°C since 1972.** 30 min
 S. Sumida
Dr. Sajio Sumida Clinic and Lab Cryomedicine and Blood Transfusion, Tissue Bank, Department of Cardiovascular Surgery, Tokyo University School of Medicine, Tokyo, Japan
- 13:00 Lunch** 60 min

October 18th (Thursday)

Assembly hall

Plenary meeting

14:00 Plenary reports (continuing)

16:30 Headed by: Prof. O.A. Panchenko, Prof. A.M. Chernysh,
Prof. N.I. Lysyanyy
Secretary: E.I. Smolyaninova

4. Hypothermic machine perfusion of human donor livers using a pressure controlled perfusion system. Initial results on single or dual-flow modalities. 20 min

B. Fuller, A. Jomaa, K. Gurusamy, B. Davidson
*LIVET Group, Division of Surgery & Interventional Sciences,
UCL, Royal Free Campus, London, UK*

5. Electrical Breakdown of Cell: Theoretical Analysis and Practical Application 20 min

E.A. Gordienko, E.I. Smolyaninova, O.A. Strikha
*Institute for Problems of Cryobiology and Cryomedicine of
National Academy of Sciences of Ukraine, Kharkov*

6. Phase States of Aqueous Solutions of Cryoprotective Substances 20 min

A.I. Osetsky
*Institute for Problems of Cryobiology and Cryomedicine of the
National Academy of Sciences of Ukraine, Kharkov*

7. Advances towards a standartisation of freezing protocols 15 min

B. Glasmacher, N. Hofmann, I. Bernemann, R. Spindler
*Institute for Multiphase Processes, Leibniz Universitaet
Hannover, Germany*

8. Fish Evolution and Sperm Cryoresistance 15 min

E.F. Kopeyka
*Institute for Problems of Cryobiology and Cryomedicine of the
National Academy of Sciences of Ukraine, Kharkov*

9. Cryopreservation of Mesenchymal Stromal Cells Within Alginate Microspheres 15 min

A.Yu. Petrenko, Yu.A. Petrenko, V.S. Zaykov, A.I. Pravdyuk,
N.A. Trufanova
*Institute for Problems of Cryobiology and Cryomedicine of the
National Academy of Sciences of Ukraine, Kharkov*

October 18th (Thursday) Assembly hall Plenary meeting

Afternoon session

10. Surface Structure of Erythrocyte Membranes Under Long-Term Storage of Donor's Blood 15 min

A.M. Chernysh, A.M. Golubev, E.K. Kozlova, V.A. Sergunova
V.A. Negovsky Research Institute of General Reanimatology of the Russian Academy of Sciences, Moscow

11. Cryoextreme Therapy as Model of Psychophysiological Stress 15 min

O.A. Panchenko
*M. Gorky Donetsk National Medical University
 Scientific-Practical Medical Rehabilitation-Diagnostic Center of Ministry of Health Care of Ukraine, Donetsk*

12. Stem Cells and Organism Immune Responses 15 min

N.I. Lisyanyj
Institute of Neurosurgery named after acad. A.P. Romodanov of AMS of Ukraine, Kiev

13. Cryopreservation of Human Embryos From Position of Bioethics 15 min

F.V. Dakhno, A.O. Kutsenko
Institute of Reproductive Medicine, Kiev

16:30 UNESCO Chair meeting for cryobiology

Organizing Committee room

Headed by: Academician of the National Academy of Sciences

A.N. Goltsev, Prof. B. Fuller, Prof. John G. Baust

Agenda:

1. Results of the activity of UNESCO Chair during two years, reports of UNESCO Chair professors about performed work.
2. Perspectives of individual training for Cryobiology and Cryomedicine

18:30 Banquet.

October 19th (Friday)

Assembly hall

Session N1

9:00 Session 1.

General issues of cryobiology

13:00

Headed by: C. Green, E.A. Gordienko, V.I. Lozinsky,
A.I. Osetsky

Secretaries: N.G. Zemlyanskikh, S.L. Rozanova

9:00	1. Cryotropic Gelation of Aqueous Solutions of Polyvinyl Alcohol and Biotechnological Aspects of Application of Resulted Formed	15 min (10+5)*
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Macroporous Polymer Materials. V.I. Lozinsky, L.G. Damshkaln, E.A. Podorozhko, B.L. Shaskolsky (*A.N. Nesmeyanov Institute of Organoelement Compounds of Russian Academy of Sciences, Moscow, Russia*).

2. Influence of Number of Cryoprotectants on Growth Mechanisms of Extracellular Ice Crystals. L.G. Kuleshova
(*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).

3. Mechanisms of Glycerol Penetration Through Membranes of Human Erythrocytes. O.I. Gordienko, S.Ye. Kovalenko, I.F. Kovalenko
(*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).

4. Calorimetric Investigation of Hemoglobin Thermodenaturation With Cryoprotectants. Yu.S.Govorova, A.V. Zinchenko (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*). 15 min (10+5)

5. Effect of Lowering the Temperature and Type of Cryoprotectant on Crystallogenic Properties of Blood Plasma. (10+5)
A.A.Kostyaev¹, A.K.Martusevich² (¹FSI Kirov Institute of Hematology and Blood Transfusion FMBA Russia, Kirov, Russia;
²Nizhny Novgorod Research Institute of Traumatology and Orthopedics, Nizhny Novgorod, Russia).

6. Cluster Crystallization of PEO-1500 Aqueous Solutions. 15 min
E.V. Davydova, A.I. Osetsky, V.I. Reznikov, S.S. Sevastyanov (10+5)
(*Institute for Problems of Cryobiology and Cryomedicine of the
National Academy of Sciences of Ukraine, Kharkov*).

10:30 Coffee-break

30 min

- 11:00** **7. Change of Human Erythrocyte Mechanical Stability in Presence of Cryoprotectants: Role of Ionic Strength and Calcium.** 15 min
 N.G. Zemlyanskikh, D.I. Alexandrova, L.A. Babiychuk (10+5)
(Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov).
- 8. Study of Cryoprotective and Physicochemical Properties of Media Based on Oxyethylated Methyl Cellosolve.** 15 min
 A.V. Nikolenko, O.V. Vyazovskaya, V.V. Chekanova (10+5)
(Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov).
- 9. About Low Temperature Effect on Biomacromolecules.** 15 min
 O.A. Nardid, E.D. Rozanova, M.I. Schetinsky, E.O. Nardid (10+5)
(Institute for Problems of Cryobiology and Cryomedicine of National Academy of Sciences of Ukraine, Kharkov)
- 10. Cryopreservation of Inoculated Lamb Kidney FLK-SBBL Strain Cells, Producing Virus of Bovine Leukemia.** 15 min
 M.Yu. Stegnyy¹, B.T. Stegnyy¹, A.M. Goltsev² (10+5)
(¹National Scientific Centre "Institute of Experimental and Clinical Veterinary Medicine", Kharkiv; ²Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkiv).
- 11. Perspectives of Using Cryopreservation for Pear Shoots (Pyrus L.) Preserved in Liquid Nitrogen Vapours.** 15 min
 V.G. Verzhuk¹, A.S. Zhestkov², V.M. Kotov³, Yu.V. Zheltikov¹, D.S. Dorokhov² (10+5)
(¹N.I. Vavilov Research Institute of Plant Industry of Russian Agricultural Academy, Saint-Petersburg; ²I.V. Michurin Research Institute of Genetics and Selection of Horticultural Plants of Russian Agricultural Academy, Michurinsk; ³Maikop Experimental Station of N.I. Vavilov All-Russia Research Institute of Plant Industry of Russian Agricultural Academy, Saint-Petersburg).
- 12. Parameters of Germination and Frost Hardiness of Winter Crops Sprouts after Pre-Seeding Treatment of Seeds by Cryoprotectants.** 15 min
 G.Yu. Dyakonenko, A.M. Kompaniyets, A.M. Goltsev (10+5)
(Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkiv).
- 13. Garlic Meristem Cryopreservation in Combined Cryoprotective Media** 15 min
 Yu.S. Lysak, A.T. Khodko, T.F. Stribul, A.M. Kompaniets (10+5)
(Institute for Problems of Cryobiology and Cryomedicine of National Academy of Sciences of Ukraine, Kharkov)
- 13:00** **Lunch.** 60 min

October 19th (Friday)

Lecture room N1

Session N2

9:00 **Session 2.**
| ***Cryomedicine, transplantology. Cryotechnologies***
13:00 ***in medicine***

Headed by: J.G. Baust, B.P. Sandomirsky, T.P. Bondarenko,
T.N. Yurchenko, O.A. Panchenko

Secretaries: N.A. Chizh, G.A. Bozhok

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|-------------|--|--|
| 9:00 | <p>1. Transplantation Prospects of Cryopreserved Endocrine Gland Tissue for Correction of Hormone Deficiency. T.P. Bondarenko, G.A. Bozhok, E.I. Legach (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>).</p> <p>2. Rationale for Application of Cryopreserved Placental Preparations for Correction of Nephritic Insufficiency. I.I. Kondakov, T.N. Yurchenko, L.N. Marchenko, T.P. Govorukha, T.M. Sharlay, E.P. Zhulikova, V.I. Strona (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>).</p> <p>3. Devilitalized Xenogeneic Vascular Grafts in 14 Month's Post-Transplant. D.V. Byzov, N.A. Chizh, I.P. Mikhaylova, B.P. Sandomirskiy (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>).</p> <p>4. Comparative Evaluation of Growth and Development of Ovarian Tissue at Different Stages of Histogenesis During Heterotopic Transplantation. Yu.O Tishchenko, V.V. Kiroshka, T.P. Bondarenko (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>).</p> <p>5. Study of Yield of Piglets' Heart Peptides From Alginate Hydrogels into Liquid Phase T.V. Shkand¹, N.A. Chizh¹, A.D. Roshal², B.P. Sandomirsky¹ (¹<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>; ²<i>Research Institute of Chemistry at V.N. Karazin Kharkov National University, Kharkov</i>).</p> <p>6. Tissue-Specific Effect of Peptide Complexes of Heart. M.O. Chizh, L.A. Rogoza, G.G. Babaeva, S.Ye. Galchenko, B.P. Sandomirsky (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>).</p> | <p>15 min
(10+5)*</p> <p>15 min
(10+5)</p> <p>15 min
(10+5)</p> <p>15 min
(10+5)</p> <p>15 min
(10+5)</p> <p>15 min
(10+5)</p> |
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October 19th (Friday)

Lecture room N1

Session N2

Morning session

10:30	Coffee-break	30 min
11:00	7. Morphofunctional Integrity of Placental Fragments When Using Different Cryopreservation Protocols. O.S. Prokopyuk, V.Yu. Prokopyuk (<i>Institute for Problems of Cryobiology and Cryomedicine of National Academy of Sciences of Ukraine, Kharkov</i>).	15min (10+5)
	8. Method of Low Temperature Modeling of Destructive and Dystrophic Process in Knee Joint. B.P. Vvedenskiy ¹ , G.A. Kovalev ¹ , N.V. Dedukh ² , S.Ye. Galchenko ¹ , O.P. Synchykova ¹ , B.P. Sandomirsky ¹ (<i>¹Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov; ²Sytenko Institute of Spine and Joint Pathology of the National Academy of Medical Sciences of Ukraine, Kharkov</i>).	15 min (10+5)
	9. Cell therapy in treatment of diseases of eye anterior segment. Yu.A. Demin, A.V. Pivnenko, M. Yu. Demina (<i>Kharkiv Medical Academy of Postgraduate Education</i>).	15 min (10+5)
	10. Extreme dehydration of endothelial cells during freezing under optimal process parameters R. Spindler ¹ , B. Rosenhahn ² , B. Glasmacher ¹ (<i>¹Institute for Multiphase Processes, Leibniz Universitaet Hannover, Germany; ²Institute for Information Processing, Leibniz Universitaet Hannover, Germany</i>)	15 min (10+5)
13:00	Lunch.	

October 19th (Friday)

Lecture room N2

Session N3

9:00 Session 3.
|
13:00 *Low temperature preservation and cold storage of cells, tissues and organs*

Headed by: B.J. Fuller, N.D. Bezugly, A.P. Demchenko,
I.P. Vysekantsev, M.P. Petrushko, V.G. Verzhuk, L.F. Rozanov
Secretary: D.V. Cherkashina

- 9:00** **1. Prospects of Mitochondria Targeted Agent Application for Hypothermic Storage of Isolated Organs.** D.V. Cherkashina, (10+5) 15 min
I.A. Sosimchik, O.A. Semenchenko, A.Yu. Somov, A.Yu. Petrenko
(*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov, Ukraine*).
- 2. The changes of cellular membranes on apoptosis and the methods of their detection.** A.P. Demchenko (10+5) 15 min
(*Palladin Institute of Biochemistry of the NAS of Ukraine, Kiev*).
- 3. Cryopreservation Effect on Behaviour of Neuronal Cells in Rat Fetuses During Culturing *in vitro*.** A.N. Sukach, O.V. Ochenashko, (10+5) 15 min
A.S. Lebedinsky, A.Yu. Petrenko (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 4. Study of Transmembrane Potentials and Mitochondrial Activity of Nerve Cells Mpf After Their Cryopreservation.** (10+5) 15 min
G.I. Morozova¹, O.A. Lopatina², E.L. Firsova², R.Y. Podchernyaeva²
(¹*Peoples' Friendship University of Russia, Moscow*; ²*FSE "D.I. Ivanovsky Research Institute of Virology" of the Ministry of Health Care and Social Development, Moscow, Russia*).
- 5. Evaluation of Mitochondrial Membrane Potential in Isolated Hepatocytes After Hypothermic Storage.** A.Yu. Somov¹, A.Yu. Petrenko¹, (10+5) 15 min
A.S. Lebedinsky¹, V.S. Kholodny¹, O.V. Kuklo¹, Yu.V. Malyukin²,
I.A. Borovoy² (¹*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*; ²*Institute for Scintillation Materials, State Scientific Institution "Institute for Single Crystals" of the National Academy of Sciences of Ukraine, Kharkov*).
- 6. Evaluation of Thiol-Containing Compound Protective Effect on Mitochondrial Function of Rat Hepatocyte During Cryopreservation.** M.Yu. Malyukina, N.S. Kavok, I.A. Borovoy, (10+5) 15 min
E.A. Averchenko (*Institute for Scintillation Materials of the National Academy of Sciences of Ukraine, Kharkov*).

10:30 Coffee-break

30 min

October 19th (Friday)

Lecture room N2

Session N3

Morning session

- 7. Quantitative Recording of Bovine Embryos Heterogeneity Evaluating Efficiency of Method of Their Cryopreservation and Transplantation.** L.V. Gorbunov¹, N.D. Bezugly^{1,2} (*¹Institute of Animal Science of Ukrainian Academy of Agrarian Sciences, Kharkov; ²Ukrainian Academy of Agrarian Sciences, Kiev*). 15 min (10+5)
- 8. Comparative Characteristics of Vitrified Blastocysts of Different Development Periods.** M.P. Petrushko^{1,2}, V.I. Pinyaev^{1,2}, N.N. Chub¹, S.S. Pravdina² (*¹Institute of Cryobiology and Cryomedicine, Kharkov, Ukraine; ²ART-Clinic for Reproductive Medicine, Kharkov, Ukraine*). 15 min (10+5)
- 9. Effect of Different Cryopreservation Stages by Vitrification on Morphofunctional and Electrical Parameters of Mice Early Embryos.** E.I. Smolyaninova¹, O.A. Strikha¹, V.A. Shigimaga², E.G. Lisina², L.I. Popivnenko¹ (*¹Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov; ²Institute of Animal Science of Ukrainian Academy of Agrarian Sciences, Kharkov region*). 15 min (10+5)
- 10. Biothechnological methods of cattle breeding.** L.V. Madison (*BE Madison V.V., Pereyaslav-Khmelnyskyi*). 15 min (10+5)
- 11. Apoptosis in Cumulus Cells at *in vitro* Maturation of Bovine Devitrified Oocytes.** T.I. Kuzmina, N.O. Novikova, D.A. Novichkova (*All-Russian Research Institute of Genetics and Breeding of Farm Animals of Russian Academy of Agricultural Sciences, St. Petersburg-Pushkin*). 15 min (10+5)
- 12. Study of Red Blood Cell Nanostructure During Intoxication. AFM of Investigation.** E.K. Kozlova, V.V. Moroz, A.M. Chernysh (*V.A. Negovsky Scientific Research Institute of General Reanimatology (SRIGR) of the Russian Academy of Medical Sciences, Moscow*). 15 min (10+5)
- 13. Biological Properties of Cryopreserved Probiotics Immobilized on Enterosorbents.** I.P. Vysekantsev, O.M. Babinets, V.F. Martsenyuk (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*). 15 min (10+5)
- 14. Use of Methylcellulose for Cryopreservation of Inoculated Cells in Serum-Free Medium.** S.V. Koshchiy, A.N. Goltsev, I.P. Vysekantsev, V.F. Martsenyuk, T.M. Gurina, L.V. Sokol (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*). 15 min (10+5)

13:00 Lunch.

60 min

October 19th (Friday)

Assembly hall

Lecture room N1

Lecture room N2

13:40 Sponsors' presentations.

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14:00

October 19th (Friday)

Assembly hall

Session N4

14:00 **Session 4.**
Stem cells. Tissue engineering. Cell and tissue
therapy.
17:00

Headed by: A.N. Goltsev, A.Yu. Petrenko, A.G. Popandopulo,
N.I. Lisyanyj

Secretary: N.N. Babenko

- 1. State of Genetic Apparatus of Cryopreserved Fetal Liver Stem Cell Compartment of Different Gestation Terms.** A.N. Goltsev, E.D. Lutsenko, T.G. Dubrava, M.V. Ostankov, N.N. Babenko, Yu.A. Gaevskaya, E.Ye. Yampolskaya, A.Yu. Dimitrov, O.V. Chelombitko (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*). 15 min (10+5)
- 2. Effect of Multipotent Mesenchymal Stromal Cells on Neoangiogenesis of Rat Lower Limbs with Experimental Chronic Ischemia.** A.G. Popandopulo, A.V. Oberemko, P.L. Varshaver, I.G. Postolyuk (*V.K. Gusak Institute of Urgent and Recovery Surgery of the National Academy of Medical Sciences of Ukraine, Donetsk*). 15 min (10+5)
- 3. New Approach to Cryopreservation of Mesenchymal Stromal Cells.** Yu.A. Petrenko, V.V. Mutsenko, S.P. Mazur, V.P. Grischuk, N.A. Volkova (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*). 15 min (10+5)
- 4. New Approaches to Cryopreservation of Stem Cells.** A.F. Gurchin¹, N.A. Shubin² (¹*Institute of Human Brain of the Russian Academy of Sciences, Saint-Petersburg*; ²*Institute of Cytology of the Russian Academy of Sciences, Saint-Petersburg*). 15 min (10+5)
- 5. Linear Selection of Cardiomyocytes Derived from Embryonic and Induced Pluripotent Stem Cells.** M. Dyachenko, D. Bil'ko, I. Borbulyak, N. Bil'ko (*Center for Molecular and Cell Research, National University of "Kyiv-Mohyla Academy", Kyiv*). 15 min (10+5)
- 6. Development of Optimal Cryopreservation Protocol for Suspensions of Mesenchymal Stem Cells with Application of Systematic Parameter Optimization.** D. Pogozhykh^{1,2}, N. Hofmann¹, T. Mueller³ and B. Glasmacher¹ (¹*Leibniz Universitaet Hannover, Institute for Multiphase Processes, Hannover, Germany* ²*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov, Ukraine*, ³*Hannover Medical School, Institute for Transfusion Medicine, Hannover, Germany*). 15 min (10+5)

*(10+5) - report 10 min, questions-answers – 5 min

October 19th (Friday)

Assembly hall

Session N4

- 7. New Possibilities of Therapeutic Potential of Cryopreserved Fetal Neural Cells. Correctability of Cytokine-Producing Thymus Function in Development of Experimental Allergic Encephalomyelitis.** E.A. Porozhan, M.V. Ostankov, A.N. Goltsev 15 min
(Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov). (10+5)
- 8. Evidence for Consistency of Anticancer Therapy with Cryopreserved Fetal Liver Cells in Experimental Model of Breast Cancer.** N.A. Bondarovich, M.V. Ostankov, A.V. Kuznyakov, O.V. Chelombitko, A.N. Goltsev 15 min
(Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov). (10+5)
- 9. Assessment of Allogeneic Transplantation Distant Effects of Fetal Liver Cells During Experimental Cirrhosis in Rats** 15 min
O.V. Ochenashko, A.S. Lebedinsky, A.N. Sukach, A.Yu. Petrenko (10+5)
(Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov).
- 10. Immune-Modulating Peculiarities of Stromal-Mesenchymal Cell Fraction Derived from Adipose Tissue** N.I. Lisanyj, 15 min
I.A. Gnedkova, M.A. Gnedkova (10+5)
(Institute of Neurosurgery named after acad. A.P. Romodanov of Academy of Medical Sciences of Ukraine, Kiev).
- 11. Differentiation of Embryonic Stem and Induced Pluripotent Cells of Mice in Cardiomyocytic Direction.** G.V. Budash, 15 min
D.I. Bilko (10+5)
(Center for Molecular and Cell Research of the National University of "Kyiv-Mohyla Academy", Kyiv).
- 12. Characterization of mTiPSCs - Mouse iPSC Obtained by Means of Sleeping Beauty Transposon System** S. Malysheva^{1,2}, 15 min
G. Budash^{1,2}, D. Bilko¹, N. Bilko¹, T. Sarich² (10+5)
(National University of "Kyiv-Mohyla Academy", Kyiv; Institute of Neurophysiology, University of Cologne, Cologne).

October 19th (Friday)

Lecture room N1

Session N5

Afternoon session

14:00 **Session 5.**
 | ***Cold adaptation. Hypothermia. Cryotherapy.***
17:00

Headed by: G.A. Babiychuk, S.D. Melnichuk,
 O.A. Panchenko, A.K. Gulevsky
Secretary: V.V. Lomako

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|--------------|---|
| 14:00 | <p>1. Effect of Rhythmic Extreme Cooling on Indices of Vegetative Regulation of Cardiac Rhythm in Aged People. V.G. Babiychuk, G.A. Babiychuk, V.V. Mamontov (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>). 15 min (10+5)</p> <p>2. Structure-Functional State of Internal Mitochondrial Membrane of Hepatocytes During Modeling of Hypobiosis in Rats. S.D. Melnychuk, S.V. Khyzhnyak, V.S. Morozova, V.M. Voytsitsky (<i>National University of Life and Environmental Sciences of Ukraine, Kyiv</i>). 15 min (10+5)</p> <p>3. Fractal Geometry of Blood-Brain Barrier During Cold Acclimation, estivation, hibernation. V.S. Marchenko, G.A. Babiychuk, D.G. Lutsenko (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>). 15 min (10+5)</p> <p>4. Cold Adaptation of Poikilothermic and Heterothermic Animals. A.K. Gulevsky, I.I. Schenyavsky, L.I. Relina, E.A. Grischenkova (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>). 15 min (10+5)</p> <p>5. Sleep in Adaptive Response Structure of Organism to Cold Effects. A.V. Shilo, E.A. Ventskovskaya, G.A. Babiychuk (<i>Institute for Problems of Cryobiology and Cryomedicine of National Academy of Sciences of Ukraine, Kharkov</i>). 15 min (10+5)</p> <p>6. Use of Cryotherapy in Rehabilitation of Patients with Asthenoneurotic Syndrome. O.A. Panchenko, T.E. Chumak, L.V. Panchenko (<i>M. Gorky Donetsk National Medical University Scientific-Practical Medical Rehabilitation-Diagnostic Center of Ministry of Health Care of Ukraine, Donetsk</i>). 15 min (10+5)</p> <p>7. Oxygen Regimen of Skeletal Muscles of Sea Fishes During Experimental Hypothermia. A.A. Soldatov (<i>Institute of Biology of the Southern Seas of the National Academy of Sciences of Ukraine, Sevastopol</i>). 15 min (10+5)</p> |
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October 19th (Friday)

Lecture room N1

Session N5

- 8. Free Radical Processes in Brain of Ground Squirrels in Dynamics of Arousal From Winter Hibernation.** N.K. Klichkhanov, Zh.G. Ismailova, M.D. Astaeva, Z.M. Shikhamirova (*Dagestan State University, Makhachkala*). 15 min (10+5)*
- 9. Effect of Artificial Hibernation on Erythrocyte Shape Ratio in Blood of Homoio- and Heterothermic Animals.** V.V. Lomako, I.F. Kovalenko, A.V. Shilo (*Institute for Problems of Cryobiology and Cryomedicine of National Academy of Sciences of Ukraine, Kharkov*). 15 min (10+5)
- 10. Peculiarities of Slight Hypothermia Effect on Bone Tissue** D.M. Poshelok, L.M. Bengus, O.A. Nikolchenko (*Sytenko Institute of Spine and Joint Pathology of the National Medical Academy of Sciences of Ukraine, Kharkov*). 15 min (10+5)
- 11. Dalargin Effect on Free Radical Processes in Rat's Blood at Hypothermia.** Mayahi Mohammed T. Jaber, J.G. Ismailova, M.D. Astayeva, N.K. Klichkhanov (*Dagestan State University, Makhachkala*). 15 min (10+5)
- 12. Effect of Cryotherapy on Human Musculoskeletal and Muscular System.** O.A. Panchenko, S.M. Radchenko (*M. Gorky Donetsk National Medical University; Scientific-Practical Medical Rehabilitation- Diagnostic Center of the Ministry of Health Care of Ukraine, Donetsk*). 15 min (10+5)
- 13. Improved Functionality of Erythrocytes as Response to Hypobiosis State in Mammals.** S.V. Repina, O.A. Nardid (*Institute for Problems of Cryobiology and Cryomedicine of National Academy of Sciences of Ukraine, Kharkov*). 15 min (10+5)

October 19th (Friday)

Lecture room N2

Session N6

Afternoon session

14:00 **Session 6.**
 | ***Preservation and application of cord blood and its***
16:00 ***components.***

Headed by: S. Sumida, L.A. Babiychuk, O.S. Prokopyuk, T.A. Kalinichenko, A.M. Kompaniets

Secretaries: L.V. Sokol, O.Yu. Kozhina

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|--------------|--|-------------------|
| 14:00 | 1. Cryopreservation of Cord Blood: Evaluation of Structure-Functional State of Nucleated Cells. L.A. Babiychuk, P.M. Zubov, V.V. Ryazantsev, O.L. Zubova (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>). | 15 min
(10+5)* |
| | 2. Preservation and Oxidative Homeostasis of Cryopreserved Umbilical Cord Blood Hemopoietic Tissue. T.O. Kalinichenko ¹ , M.Yu. Anoshina ¹ , V.V. Balan ² , Zh.M. Minchenko ² , G.T. Glukhenka ¹ (<i>¹Institute of Haematology and Transfusiology of the National Academy of Medical Sciences of Ukraine, Kyiv; ²Research Center for Radiation Medicine of the National Academy of Medical Sciences of Ukraine, Kyiv</i>). | 15 min
(10+5) |
| | 3. Comparative Characteristics of Hemopoietic Progenitor Cells Derived From Native and Cryopreserved Placental Tissue and Human Cord Blood. M.D. Kuchma ^{1,2} , V.A. Shabliyi ^{1,2} , V.M. Kirik ³ , A.N. Onischenko ² , L.L. Lukash ¹ , G.S. Lobyntseva ² (<i>¹Institute of Molecular Biology and Genetics of National Academy of Sciences of Ukraine; ²Institute of Cell Therapy; ³State Institute of Genetic and Regenerative Medicine of National Academy of Medical Sciences of Ukraine, Kiev</i>). | 15 min
(10+5) |
| | 4. Cryopreserved Human Placenta Blood Serum and Its Biological Activity During Experimental Atherosclerosis in Rabbits. O.V. Falko, O.V. Lipina, V.V. Volina, O.S. Prokopyuk (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>). | 15 min
(10+5) |
| | 5. Effect of Cryopreserved Cord Blood Nucleated Cells on State of Vegetative Regulation of Heart Rate in Young Rats L.V. Babiychuk, V.G. Babiychuk (<i>Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov</i>). | 15 min
(10+5) |

October 19th (Friday)

Lecture room N2

Session N6

- 6. State of ROS-Producing and Antioxidant Systems of Cryopreserved Cord Blood Nucleated Cells.** V.V. Ryazantsev, L.A. Babiychuk, O.A. Mikhaylova, P.M. Zubov *(Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov).* 15 min (10+5)
- 7. Effect of Cord Blood and Extreme Cooling on Immunological Status of Animals at Chronic Alcoholization** I.I. Lomakin, O.V. Kudokotseva *(Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov).* 15 min (10+5)
- 8. Role of Cryopreserved Cord Blood Leucoconcentrate in Correction of Secondary Immunodeficiencies of Viral Origin** O.Yu. Kozhina, M.V. Ostankov, N.A. Bondarovich, M.A. Kravchenko, A.N. Goltsev *(Institute for Problems of Cryobiology and Cryomedicine of the national Academy of Sciences, Kharkov).* 15 min (10+5)

October 18th-19th Entry of the Assembly hall Poster session

Discussion of posters - October 19th 16.00-17.00 (Poster session).
 Reporters are near their posters.

- 1. Whole Cord Blood Cryopreservation with PEO-1500: Assessment of Apoptotic Stages in Nucleated Cells.** L.A. Babiychuk, O.L. Zubova, P.M. Zubov, V.V. Ryazantsev (*Institute for Problems of Cryobiology and Cryomedicine of National Academy of Sciences of Ukraine, Kharkov*).
- 2. Phase Transitions in Autoclaved Placental Extracts and Cell Suspensions at Temperatures Below 0°C.** E.N. Bobrova, A.V. Zinchenko, M.I. Schetinsky (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 3. Use of Catalase to Stimulate Growth of Mycelial and Yeast Fungi After Cryopreservation.** I.S. Vazhinskaya, A.V. Kanterova, G.I. Novik, I.V. Moroz (*Institute of Microbiology of the National Academy of Sciences of Belarus, Minsk*).
- 4. Survival Rate of Bacteriophages of Phytopathogenic Bacteria During Cryopreservation and Lyophilization.** A.D. Gerasimovich, G.I. Novik (*Institute of Microbiology of the National Academy of Sciences of Belarus, Minsk*).
- 5. Comparison of Mesenchymal Stem Cells and alpha IFN Effects on Functioning of MCF-7 Cancer Cell Population.** T.S. Gergelyuk, E.M. Perepelitsyna, M.V. Sidorenko (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kiev*).
- 6. Adaptive Response and Oxidative Stress in Cryobiology.** I.P. Goryachaya¹, V.D. Zinchenko¹, I.V. Govor² (¹*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*; ²*State Scientific Institution "Institute for Single Crystals" of the National Academy of Sciences of Ukraine, Kharkov*).
- 7. Development of Technology for Dietary Supplements "Aminaton" and "Lipoton" using Cryogenic Technology.** V.E. Grebenshikov, N.F. Kurilo, A.S. Snurnikov (*"Zooveterinary Center" Ltd, Kharkiv*).
- 8. Effect of Low Temperatures on Biological Activity and Some Biochemical Characteristics of Human Ovarian Follicular Fluid.** V.I. Grischenko, E.A. Yakovleva, N.N. Chub, V.V. Cherepanov (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 9. Perspectives of Application of Low-Molecular Fraction (up to 5 kDa) From Hearts of Newborn Piglets for Myocardial Regeneration.** A.K. Gulevsky, E.S. Abakumova, N.N. Moiseyeva (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).

October 18th-19th

Entry of the Assembly hall

Poster session

- 10. Effect of Low Molecular Fraction Derived From Cryohemolysate of Bovine Cord Blood on Structural and Functional Properties of Different Origin Cell Cultures and Donor's Blood Leukocytes *in vitro*.** A.K. Gulevsky, A.V. Trifonova, O.L. Gorina (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 11. Examining of Temperature Ranges of Phase Transformations in Cryoprotective Solution for Development of Unified Protocol of Biological Objects' Freeze-Thawing** T.M. Gurina, A.L. Kirilyuk (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 12. Calcium Fluctuation in Intracellular Depots of Native and Devitrified Pigs' Oocytes.** V.Yu. Denisenko, T.I. Kuzmina (*All-Russian Scientific Research Institute of Genetics and Farm Animal Breeding of the Russian Academy of Agrarian Sciences, St. Petersburg, Pushkin, Russia*).
- 13. Use of Low Temperature Factor in Treatment of Inflammatory Diseases of Otorhinolaryngology Organs.** A.S. Zhuravlyov, M.I. Yashchenko, M.V. Kalashnik (*Department of Otorhinolaryngology of Kharkiv National Medical University*).
- 14. Preservation of Orchid Male Gametophytes at Critical Low Temperatures** R.V. Ivannikov (*National Botanical Garden of the National Academy of Sciences of Ukraine, Kyiv*).
- 15. Selection of Efficient Protective Media for Cryopreservation of Mycelial Fungi.** A.V. Kanterova¹, I.S. Vazhinskaya¹, G.I. Novik¹, I.P. Vysekantsev² (¹*Institute of Microbiology of the National Academy of Sciences of Belarus, Minsk*; ²*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 16. Modeling of Amino Acid Solvation by Polymer Cryoprotectants Under Mass Spectrometric Experiment Conditions.** M.V. Kosevich¹, V.G. Zobnina¹, O.A. Boryak¹, V.V. Chagovets¹, A.V. Zinchenko² (¹*B.I. Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, Kharkov*; ²*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 17. Types of Cold Adaptation Strategies in Insects Inhabiting Central Yakutia.** N.G. Li (*Institute for Biological Problems of Cryolithozone Siberian Branch of Russian Academy of Sciences, Yakutsk, Russian Federation*).
- 18. Supercooling Point and Specific Ice Nucleating Activity as the Parameters for Evaluating of Insect Cold Hardiness Potential.** N.G. Li (*Institute for Biological Problems of Cryolithozone Siberian Branch of Russian Academy of Sciences, Yakutsk, Russian Federation*).
- 19. Use of Liquid Nitrogen Level Alarm System to Optimize Conditions of Biological Material Storage at Low Temperature Bank.** A.N. Overko, M.I. Groshevoy, V.V. Chizhevsky (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).

October 18th-19th Entry of the Assembly hall Poster session

- 20. Use of Cryopreservation Protocols with Controlled Cooling-Heating Rates for Adult Rat Interstitial Cells .** A.V. Pakhomov, T.M. Gurina, G.A. Bozhok, A.L. Kirilyuk (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 21. Red-Shifted Probe for Apoptosis Detection Prospective for Cryobiology.** K.A. Pyrshev, M.M. Guzyk, K.Y. Manoilov (*Palladin Institute of Biochemistry of the National Academy of Sciences of Ukraine, Kiev*).
- 22. Biological Properties of Cryopreserved Placental Biological Objects of Different Disintegration Degree.** V.Yu. Prokopyuk, O.S. Prokopyuk (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 23. Morphological State of Isolated Liver of Rats after Hypothermic Storage in Weak-Electrolytic Media and Normothermic Reperfusion.** N.V. Repin (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 24. Course and Outcome of Pregnancies after Cryoembryos' Transfer.** E.P. Ryabenko, E.A. Molchanov, L.S. Semenyuk, N.V. Rukomeda (*Clinic of Reproductive Medicine "Nadia", Kiev*).
- 25. Dynamics of Change in Erythrocyte Membrane Nanostructure During Blood Loss as a Result of Surgeries in Clinic.** V.A. Sergunova, B.F. Nazarov, E.A. Myagkova (*V.A. Negovsky Research Institute of General Reanimation of the Russian Academy of Sciences, Moscow, Russia*).
- 26. Apiproducs as Natural Source of Amino Acids-Detoxifiers.** V.F. Furduj, S.N. Garayeva, A.I. Mantoptin, G.V. Redkozubova, G.V. Postolati, I.G. Mereutse (*Institute of Physiology and Sanocreatology of Academy of Sciences of Moldova, Republic of Moldova, Chisinau*).
- 27. Implantation of Cryopreserved Testicular Tissue in Experiment: New Aspects.** V.Ye. Chadayev (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkiv*).
- 28. Allotransplantation of Cryopreserved Testicular Tissue as Method to Correct Mammalian Testicular Hypofunction.** V.Ye. Chadayev, V.V. Volina (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences, Kharkov*).
- 29. State of Prooxidant - Antioxidant Balance in Tissues of Laboratory Animals on Background of Introduction of Cryopreserved Placental Extract at General Cooling.** A.K. Cheremskoy, V.V. Chizhevsky, Yu.V. Nikitchenko, O.S. Prokopyuk (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 30. Forecasting of Osmotic Behavior of Cells during Freezing and Their Post-Thaw Survival.** N.A. Chernobay, I.F., Kovalenko, G.A. Bozhok, A.V. Pakhomov, L.F. Rozanov (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).

October 18th-19th

Entry of the Assembly hall

Poster session

- 31. Study of Cryopreservation Influence on Morphological Properties of Human Ovarian Granulosa and Cumulus Cells.** N.N. Chub, M.P. Petrushko, I.V. Dobrunova, V.V. Kiroshka, E.B. Revenko (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkiv*).
- 32. Sensitivity of Rat Fetal and Neonatal Neuronal Cells to Hypothermic Storage.** M.V. Shevchenko¹, A.N. Sukach² (¹*G.S. Skovoroda Kharkov National Pedagogical University*; ²*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 33. Combined Effect of Glycerol and Preliminary Dehydration on Hypertonic Stress of Human Erythrocytes.** N.M. Shpakova, N.V. Orlova, E.Ye. Nipot, D.I. Aleksandrova, S.E. Ershov, O.A. Shapkina (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).
- 34. Cell Encapsulation in Semi-Permeable Alginate Mmicrocapsules Using High Voltage Processes.** O. Gryshkov, H. Zernetsch, T. Chakradeo, B. Glasmacher (*Leibnitz University, Hannover Institute of Multiphase Processes, Hannover*).
- 35. Alginate Encapsulation Technology Improves Survival of Living Cells Post-Cryopreservation** O. Gryshkov, N. Hofmann, B. Glasmacher (*Leibnitz University, Hannover Institute of Multiphase Processes, Germany*).
- 36. Cryopreservation of Primate Mesenchymal Stem Cells with Antioxidants as Additional CPA** N. Hofmann¹, T. Muller², D. Pogozykh^{1,3}, B. Glasmacher¹ (¹*Institute for Multiphase Processes, Leibniz Universitaet Hannover, Germany*; ²*Institute for Transfusion Medicine, Hannover Medical School, Hannover*; ³*Institute for Problems of Cryobiology, National Academy of Sciences, Kharkov*).
- 37. Development of a Cryopreservation Strategy for a Human Corneal Equivalent** I. Bernemann¹, S. Reichl², B. Glasmacher¹, N. Hofmann¹ (¹*Leibnitz University, Hannover Institute of Multiphase Processes, Germany*; ²*Institute for Pharmaceutical Technology, Technische Universitaet Braunschweig, Braunschweig*).
- 38. Effect of Spleen Extract on Peptide Content of Rat Skin and Adhesion of Cold Injuries.** O.O. Bogatyreva, I.G. Borisenko, A.B. Shinder, N.Yu. Shkodovska, S.Ye. Galchenko, B.P. Sandomirsky (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkiv*).
- 39. Use of Cryopreserved Cord Blood in Treatment of Acute Purulent Peritonitis in Rats.** K.A. Goltsev¹, I.A. Krivoruchko², K.A. Azhgibesov², O.V. Safranchuk¹, O.Yu. Kozhina¹, M.V. Ostankov¹, A.N. Goltsev¹ (¹*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*; ²*Kharkov National Medical University*).

October 18-19

Entry of the Assembly hall

Poster session

40. To The Question of Searching New Effective Cryoprotective Solutions.

A.N. Khudyakov, O.O. Zaitseva, T.V. Polezhayev, D.S. Laptev, O.N. Solomin, A.A. Kostyaev*, S.V. Utemov*, F.S. Sherstnev* (*Institute of Physiology, Komi Science Center, The Urals Branch, Russian Academy of Sciences; *Kirov Research Institute of Hematology and Blood Transfusion of FMBA of Russia, Kirov, Russia*).

41. Use of Medical Cooling Methods against Chronic Alcohol Intoxication.

I.I. Lomakin, G.A. Babiychuk (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).

42. Effect of Rhythmic Cold Exposures on Sleep-Wake Cycle Recovery after Artificially Induced Desynchronosis.

E.A. Ventskovskaya, A.V. Shylo, G.A. Babiychuk (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).

43. Morphological Characteristics of Cornea after Use of Mesenchymal Stromal Cells.

Yu.A. Demin¹, A.V. Pivnenko¹, N.G. Malova², M.Yu. Demina¹ (¹*Kharkov Medical Academy of Postgraduate Education; ²V.Ya. Danilevsky Institute for Endocrine Pathology Problems of the National Academy of Medical Sciences of Ukraine*).

44. Use of Growth Factors BDNF and TGF1b for Selection of Method for Freezing of Human Placental Amniotic Membrane and Its Application after Glaucoma Surgery.

Yu.A. Demin¹, V.V. Ryazantsev², I.L. Kazmiruk¹, M.Yu. Demina¹ (¹*Kharkov Medical Academy of Postgraduate Education; ²Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).

45. Cryopreservation of Single Human Spermatozoa Within Alginate Microspheres.

A.I. Pravdyuk^{1,2}, N.G. Grishchenko², Yu.A. Petrenko¹, A.Yu. Petrenko¹ (¹*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov; ²Academician V.I. Grischenko Clinic for Reproductive Medicine, Kharkov*).

46. Use of Cryopreserved Placenta Cells for Decreasing Autoreactivity of Immunocompetent Cells During Adjuvant Arthritis.

E.D. Lutsenko, A.N. Goltsev, M.V. Ostankov, L.V. Ostankova, N.A. Bondarovich (*Institute for Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine, Kharkov*).

47. Development of a New Seeding Device for Cryomicroscopic Investigations.

R. Spindler, B. Glasmacher (*Institute for Multiphase Processes, Leibniz Universitaet Hannover, Germany*).

October 19th (Friday)

Assembly hall

Closing ceremony

- 17:00**
- 1. Summarizing speech of the Chairman of
Organizing Committee of the conference,
Academician of the National Academy of Sciences
of Ukraine,
Anatoliy N. Goltsev**
 - 2. Conference resolution.**

notes

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current problems of **cryobiology & cryomedicine**

Organisers of the conference:

National Academy
of Sciences of Ukraine

Institute for Problems
of Cryobiology and Cryomedicine

Kharkov National Medical University



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UNESCO

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