



Bogomoletz Institute of Physiology, Ukrainian Academy of Sciences
National Research Institute of Tuberculosis and Lung Diseases,
Warsaw
Ukrainian-Polish-Belorussian Respiratory Working Group
Under the Auspices of His Excellency the Polish Ambassador
Mr. Henryk Litwin

From the Lab to the Bedside

X Anniversary Ukrainian - Polish - Belorussian Conference
“Physiology and Pathology of Respiration:
Advances in Basic Research and Clinical Applications”

Kiev, 10-13 October, 2013

With the great pleasure we invite researchers and physicians to participate in the **X Anniversary Ukrainian-Polish-Belorussian Conference “Physiology and Pathology of Respiration”**.

The main idea of this forum is to give our colleagues from different countries a platform for the introduction of advanced achievements in basic research of lung physiology from molecular to systemic level directly into clinical practice.

The conference will be held in Kiev, Ukraine, at the Bogomoletz Institute of Physiology, Bogomoletz St, 4.

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Official language: English.

Scientific and Organizing Committee:

Honorary Chairmen:

Professor **Janusz Kowalski** (Co-Founder of the Polish-Ukrainian Working Group, National Research Institute of Tuberculosis and Lung Diseases in Poland)

Professor **Oleg Krishtal** (Director of the Bogomoletz Institute of Physiology, Kiev, Ukraine)

Chairmen:

Professor **Tatiana Serebrovskaya** (Bogomoletz Institute of Physiology in Kiev, Ukraine);

Professor **Piotr Gutkowski** (Military Institute of Medicine in Warsaw, Poland)

Professor **Alexander Makarevich** (Medical State University in Minsk, Belorussia)

Executive Secretary:

Dr. Eugenia Kolesnikova (Bogomoletz Institute of Physiology in Kiev, Ukraine);

Scientific Committee Members:

Professor **Chrostowska-Wynimko** (National Research Institute of Tuberculosis and Lung Diseases in Warsaw, Poland)

Professor **Joanna Domagała-Kulawik** (National Delegate ERS, Medical University in Warsaw, Poland)

Professor **Iryna Mankovska** (Bogomoletz Institute of Physiology in Kiev, Ukraine)

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Professor **Vadim Sagach** (Bogomoletz Institute of Physiology in Kiev, Ukraine)

Dr. **Kateryna Rozova** (Bogomoletz Institute of Physiology in Kiev, Ukraine)

Dr. **Viktor Lopata** (Bogomoletz Institute of Physiology in Kiev, Ukraine)

Working schedule

10 October, Thursday

9:00 – 18:00 – Registration at Bogomoletz Institute of Physiology

16:00 – 18:00 – City tour

19:00 – Welcome party (Bogomoletz Institute of Physiology, Bogomoletz St, 4)

11 October, Friday

8.30 – 9.00 Registration

9.00 – 9:15 Opening ceremony

9:15 – 9:45 Inaugural lectures

Janusz Kowalski (Warsaw, Poland)

Decade of the cooperation between Polish, Ukrainian and Belorussian physiologists and pulmonologists (2004 - 2013).

Joanna Chorostowska-Wynimko (Warsaw, Poland)

Basic research – the moving force of modern clinical practice.

9:45 - 13.15 Session I.

Physiology and Pathophysiology of Respiration: Basic Research

Chair: Prof. Tatiana Serebrovskaya (UA), Prof. Janusz Kowalski (PL)

9:45 – 10.15 Keynote lecture:

Nanduri Prabhakar (Chicago, USA)

Cellular and molecular basis of acute O₂ sensing and its physiological consequences.

10.15 – 10.45 Keynote lecture:

Susanne Arnold (Nijmegen, Netherlands)

The respiring brain – the regulation of mitochondrial function and signalling by hypoxia

10.45 – 11.00 Malieieva G.V., Lushnikova I.V., Skibo G.G. (Kyiv, Ukraine)

Mitochondrial dynamics in oxygen-glucose deprivation on a model of cultivated hippocampal slices

11.00 – 11.15 Coffee-break

11.15- 13.15 - Session I (continuation)

Chair: Prof. Nanduri Prabhakar (USA), Prof. Galina Skibo (UA)

11.15 – 11.30 Jayasri Nanduri (Chicago, USA)

Epigenetic regulation of oxygen sensing and its impact on autonomic functions

11.30 – 11.45 Savchuk O.I., Goncharov S.V., Dosenko V.E., Skibo G.G. (Kiev, Ukraine)

Proteasome activity changes after focal ischemia

11.45 – 12.00 Vadim Sagach, Shimanskaya T.V., Goshovska Y.V. (Kyiv, Ukraine)

Inhibition of H₂S-synthesizing enzyme cystationine-gamma-lyase protects heart from reperfusion injury

12.00 – 12.15 Segizbaeva M.O., Aleksandrova N.P. (St. Petersburg, Russia)

Inspiratory muscle resistance to fatigue during simulated airway obstruction

12.15 – 12.30 Makarevich A., Lemeshevskaya S, Pochtavcev A., Lemeshevsky A., Nedvedz M. (Minsk, Belarus)

Dynamics of respiratory muscle changes during chronic obstructive pulmonary disease progression

12.30 - 12.45 Donina Zh.A. (St.Petersburg, Russia)

Effects of head-down tilt on respiratory control and load compensatory responses in rats

12.45 – 13.00 Mieczyslaw Pokorski (Warsaw, Poland)

Sensing changes in oxygen content: the role in health and disease

13.00 – 13.15 **Discussion**

13.15 - 13.45 **Poster session I** (*Chair: Prof. Zh. Donina, RU; Prof. A. Makarevich A, BY*)

13.45 – 14.30 **Lunch**

14.30 – 17.45 Session II

Physiology and Pathophysiology of Respiration: Clinical Physiology

Chair: Prof. Iryna Mankovska (UA), Prof. Joanna Chorostowska-Wynimko (PL)

14.30 – 15.00 Keynote lecture:

Tatiana Serebrovskaya (Kyiv, Ukraine)

Lessons from twenty years' investigation of intermittent hypoxia: principles and practices

15.00 – 15.15 Stryapko N.V., Sazontova T.G., Hajrullina A.A., Vdovina I.B., Kulikov A.N., Arkhipenko Yu.V. (Moscow, Russia)

Antitoxic effect of adaptation to hypoxia and hyperoxia: redox signalling and physical endurance in the model of low dose intoxication by chromium and benzene

15.15 – 15.30 Portnichenko V.I., Nosar V.I., Portnychenko A.G., Pavlovich S.I., and Mankovskaya I.N. (Kiev, Ukraine).

Phase changes in energy metabolism during recovery after hypoxia or stress

15.30 – 15.45 Glazachev O.S., Sazontova T.G., Bolotova A.V., Vdovina I.B., Arkhipenko Yu.V. (Moscow, Russia)

Adaptive effects of interval hypoxia and hyperoxia on exercise tolerance in professional athletes: role of ROS and redox pathways

15.45 – 16.00 Korkushko O., Ishchuk V., Shatylo V. (Kyiv, Ukraine)

Effect of intermittent hypoxia training (IHT) on oxygen consumption in elderly people with and without obesity

16.00 – 16.15 - Coffee-break

16.15- 17.45 - Session II (continuation)

Chair: Prof. Yuri Kislyakov (RU); Prof. Juri Marushko (UA)

16.15 – 16.30 *Strutynska N.A., Semenykhina O.M., Kotsuruba A.V., Dobrovolsky F.V.,
Sagach V.F. (Kyiv, Ukraine)*

Hydrogen sulfide as endogenous modulator of Ca²⁺-sensitive
mitochondrial permeability transition pore in adult and old rat heart

16.30 – 16.45 *Zinchuk V.V., Stepuro T.L., Khodosovsky M.N. (Grodno, Belarus)*

The in vivo and in vitro blood oxygen-binding properties modification
by different nitric oxide donors

16. 45 – 17.00 *Przybyłowski T., Rubinsztajn R., Maskey-Warzęchowska M., Paplińska-Goryca M.,
Nejman-Gryz P., Karwat K., Chazan R. (Warsaw, Poland)*

The influence of hyperinflation and systemic inflammation on the 6
minute walking distance in patients with chronic obstructive pulmonary
disease

17.00 – 17.15 *Kislyakov Yu.Ya., Kislyakova L.P., Zaiceva A.Yu., Gulyaev V.I.
(St.Petersburg, Russia)*

Universal mobile analytical complex for research of respiration and gas
exchange in man and animals

17.15 – 17.30 *Arokina N.K. (St. Petersburg, Russia)*

Methods of the breathing restoration after the respiratory arrest under
deep hypothermia in rats

17.30 – 18.00 – Oral and Poster Presentations Discussion

18.30 – Reception at the Polish Embassy

Poster session I

Chair: Prof. Zhanna Donina (RU); Prof. Prof. A. Makarevich A, (BY)

1. *Kislyakova L.P., Kislyakov Yu.Ya., Zaiceva A.Yu., Gulyaev V.I. (St. Petersburg, Russia). Multisensory educational system "electronic tongue" for the diagnosis of the functional state of the human body on the characteristics of exhaled breath condensate.*
2. *Kolesnikova E. E., Drevitskaya T. I., Mankovskaya I. N. (Kyiv, Ukraine). Expression of pyruvate dehydrogenase kinase-1 (PDK-1) gene in brainstem mitochondrial dysfunction during adaptation to intermittent hypoxic and hypoxic-hyperoxic training*
3. *Kotsuruba A.V., Korkach Ju. P., Goshovska Y.V., Sagach V.F. (Kyiv, Ukraine). H₂S protects heart from deferoxamine-induced cardiotoxicity preventing ROS and RNS production*
4. *Lemeschewskij A., Nedzvedz M., Makarevich A., Lemiasheuskaya S. (Minsk, Belarus). State of respiratory muscles (RM) in men with chronic obstructive pulmonary disease (COPD)*
5. *Levashov M.I., Berezovskii V.A., Saphonov S.L., Chaka E.G., Yanko R.V. (Kiev, Ukraine). Effect of intermittent normobaric hypoxia on total oxygen consumption and efficiency of cardio-respiratory mechanisms of oxygen supply in patients with chronic pulmonary diseases*
6. *Lopata V.A. , Myasnyi I.S. (Kiev, Ukraine). The modern spirometry: challenges and responses*
7. *Mankovska I., Gonchar O., Steshenko N. (Kyiv, Ukraine). Intermittent hypoxia-hyperoxia, a new mode of adaptive training in correction of lung mitochondrial dysfunction*
8. *Osmak E.D. (Kiev,Ukraine). State of the sympathoadrenal system under psychoemotional stress and hypoxic conditions at aging.*
9. *Pavlovych S.I., Martynova T.V., Makogon N.V., Grushka N.G., Sukhina V.S., Bryzgina T.M., Yanchii R.I. (Kyiv, Ukraine). The role of poly(adp-ribose) polymerase-1 (PARP-1) in concanavalin A (CONA) induced microcirculation disturbances in mouse liver*
10. *Regeda M.S., Kolishetska M.A., Sementsiv N.G. (Lviv, Ukraine). Guinea-pig blood serum interleukin-6 activity in the dynamics of experimental bronchial asthma development*
11. *Rozova E.V. (Kiev, Ukraine). Some possibilities of elimination of the ultrastructural prerequisites under experimental pneumosclerosis development*
12. *Sas P.A. (Ternopil, Ukraine). Features of the kidney inflammation and the level of endogenous intoxication in acute lungs injury in experiment*
13. *Yanko R.V., Chaka E.G., Litovka I.G. and Levashov M.I. Rat respiratory function after hyperoxic gas mixture impact*
14. *Zubieta-Calleja, GR, Ardaya G, Zubieta N, Paulev PE and Zubieta-Castillo G. (La Paz, Bolivia). Tolerance to hypoxia*

12 October, Saturday

9.00 – 13.00 Session III:

Clinical Aspects of Lung Diseases

Chair: Prof. Piotr Gutkowski (PL), Prof. Andrey Dorofeyev (UA)

9.00 – 9.30 Keynote lecture:

Chorostowska-Wynimko J., Kubincova A., Yanev N., Ulmeanu R., Struniawski R., Pobeha P., Kyuchukov N., Deleanu O., Poptawska B., Tkacova R., Ivanov Y., Mihaltan F., Valiulis A. (Warsaw, Poland; Kosice, Slovakia; Pleven, Bulgaria; Bucharest, Romania; Vilnius, Lithuania)

The alpha-1-antitrypsin (AAT) deficiency in respiratory patients – targeted screening programs in Poland and central Eastern Europe (CEE AAT network).

9.30 – 9.40 *Barkhina T.G., Gushchin M.Y., Polner S.A., Golovanova V.E. (Moscow, Russia)*

Changes in epithelial barrier of airways in allergy

9.40 – 9.50 *Hryshchuk L.A., Bondarenko Yu.I., Beskyy V.O., Marushchak M.I.*

(Ternopil, Ukraine)

The role of pulmonary edema and surfactant inactivation in the pathogenesis of HCl-induced acute lung injury

9.50 – 10.00 *Doboszynska A. (Olsztyn, Poland)*

Treatment of the advanced chronic obstructive pulmonary disease (COPD).

10.00 – 10.10 *Jarzemka A., Przybylski G., Domagala-Kulawik J. (Bydgoszcz - Warsaw, Poland)*

How to treat sarcoidosis

10.10 – 10.25 Discussion

10:25 – 10.40 Coffee-break

10.40 Session III (continuation)

Chair: Prof. Joanna Domagala-Kulawik (PL), Prof. Alexander Makarevich (BY)

10.40 – 10.50 *Domagala-Kulawik J. (Warsaw, Poland)*

EBUS/TBNA – a challenge for pathologist

10.50 – 11.00 *Asanov E.O., Dyba I.A. (Kiev, Ukraine)*

Age-related characteristics of microcirculation at breathing with positive expiratory pressure.

11.00 – 11.10 *Gutkowski P. (Warsaw, Poland)*

Spirometry limitations – a few examples.

11.10 – 11.20 *Tomchik N.V. (Grodno, Belarus)*

The children's incidence of asthma in Grodno according to a long-term monitoring.

11.20 – 11.30 *Kovalenko S.V., Dorofeyev A.E.*

Changes of the parameters of the plasmatic component of the hemostatic system in patients with bronchial asthma.

11.30 – 11.40 *Skiba T.A. (Lugansk, Ukraine)*

Modern trends in the treatment of COPD, combined with osteoarthritis

11.40 – 11.50 *Dorofeyev A.E., Chorostowska-Wynimko J., Kovalenko S.V., Khorunzhaya V.S., Vasylenko I.V., Davydenko I.S., Struniawski R. (Donetsk, Ukraine; Warsaw, Poland)*

Changes of the cellular infiltrate in the mucous tunic of the bronchi in patients with chronic obstructive pulmonary disease in dependence on antiproliferative protection.

11.50 – 12.00 –Discussion

12.00 - 12.30 – Poster session II

Chair: Prof. Oleg Glazachev (RU); Prof. Valeriy Shatilo (UA)

12.30 – 13.30 – Lunch

13.30 - Session IV:

Tuberculosis and the Lung Pathology. Other Aspects of Lung Diseases

Chair: Prof. Anna Doboszyńska (PL), Prof. Leonid Hryshchuk (UA)

13.30 – 13.40 Aydonina L.L., Priyma N.V., Aydonina O.V., Vayntrub V.F., Khristyan G.Ye.,
Arlindo Valerio Arao de Oliveira (Minsk, Belarus; Dnepropetrovsk, Ukraine)
Tuberculous periodontitis: clinical-laboratory and epidemiological aspects.

13.40 – 13.50 Zienkow L.N., Aleksa E.N. (Grodno, Belarus)
Occupational tuberculosis (TB) as the disease of medical personals.

13.50 – 14.00 Gutkowski P. (Warsaw, Poland)
Sleep disordered breathing in childhood

14.00 – 14.10 Rubinsztajn R., Przybyłowski T., Maskey-Warzęchowska M., Paplińska-Goryca,
Gryz P.-N., Karwat K., Chazan R. (Warsaw, Poland)
The influence of hyperinflation on body composition and cytokine
profile in patients with chronic obstructive pulmonary disease.

14.10 – 14.25 Coffee-break

14.25-14.35 Patil P.V., Gaudé G.S., Paramjyothi G., Jain R., Kaur K. (Belgaum, India)
Pulmonary alveolar microlithiasis: report of 2 cases.

14.35 – 14.45 Królikowski K., Domagata-Kulawik J., Chądzyński R.; Mąka A., and Opolski G.
(Warsaw, Poland)
Nicotine dependence and motivation to quit smoking in patients with
acute myocardial infarction

14.45 – 14.55 Roubuts T., Kharitonava A. (Grodno, Belarus)
Influence of psychological features of children on the parameters of
external breathing.

14.55 – 15.15 Poster Session Discussion

15.15 - 15.30 Panel

15.30 – 16.15 Business meeting. Closing of the conference

16.30 – 17.30 Stand-up meal (café at Bogomoletz Institute)

19.00 – Theatre performance

Poster session II

Chair: Prof. Oleg Glazachev (RU); Prof. Valeriy Shatilo (UA)

1. *Astrauko A.P., Shtan'ko V.L., Avdonina O.V., Arlindo Valerio Arao de Oliveira (Minsk, Belarus; Dnepropetrovsk, Ukraine). Prognostic features of the epidemic situation of tuberculosis and its concomitance with HIV infection in Ukraine and in the republic of Belarus.*
2. *Bakunovskiy O.M., Serebrovskaya T.V., Nesvitailova K.V., Gavenauskas B.L., Tymoshenko K.R., Mankovska I.M. (Kiev, Ukraine). Mainstream capnography analysis as a tool for the assessment of alveolar ventilation effectiveness in children with bronchial asthma under intermittent hypoxia training*
3. *Baradzina H., G.Hurevich, V. Denisevich (Minsk, Belarus). Is there correlation between lung function parameters and the length of industrial work record in potash mine?*
4. *Baradzina H. (Minsk, Belarus). Quality of life in patients with pulmonary sarcoidosis*
5. *Cintar T.P., Fediv O.I., Stupnitska G.Ya. (Chernivtsi, Ukraine). Some indicators of oxidant-antioxidant homeostasis in patients with nonalcoholic fatty liver disease combined with chronic obstructive pulmonary disease.*
6. *Gerasymchuk M.R., L.M. Zayats, V.V. Cherkasova and N.Y.Vodoslavka (Ternopil, Ukraine). Role of endogenous intoxication and neutrophils in mechanisms of acute lung injury in case of experimental peritonitis.*
7. *Gumeniuk SA, Barkhina TG, Polner SA., Guschin MY. (Moscow, Russia). Morphofunctional study of bronchial asthma with extrahospital pneumonia.*
8. *Gushchin M.Y., Barkhina T.G., Polner S.A., Gumeniuk S.A. (Moscow, Russia). Bronchial asthma and allergic rhinitis in patients of different ages.*
9. *Kharchanka A. (Grodno, Belarus). Complex therapy of recurrent obstructive bronchitis combined with food allergy in children aged 1 to 3 years.*
10. *Kryvanos P., Tamashakina G. (Minsk, Belarus). Bacilli shedding significance in differential diagnostics of lung tuberculosis and cancer.*
11. *Kryvanos P., Sinkov G., Baradzina H. (Minsk, Belarus). Peculiarities of tuberculosis epidemiology in rural population.*
12. *Lemiasheuskaya S. (Minsk, Belarus). Impact of different factors on bone mineral density in men with chronic obstructive pulmonary disease.*
13. *Marushko Yu., Melnikov O., Movchan O., Lysovets O. (Kyiv, Ukraine). Content of antimicrobial peptides in oropharyngeal secretions of children suffering from acute respiratory diseases.*
14. *Pobedjonna G.P., Shuper V.O. (Lugansk, Ukraine). Systemic condition of some inflammatory mediators in patients with bronchial asthma and ways of their correction.*
15. *Rybina T., Amelchenko E., Omelyanenko-Gonulal O. (Minsk, Belarus). Underground working environment provokes lung diseases development.*
16. *Semashko O.B., Tsygankova O.A., Pankratova Yu.Yu., Germenchuk I.A. (Minsk, Belarus). Tuberculosis in medical workers.*
17. *Starodub A.G., Barylyak L.G., Popovych I.L. (Kyiv, Ukraine). Application of interval normobaric hypoxic training for the amelioration of balneotherapeutic complex SPA Truskavets effects on immune system.*
18. *Stupnitska G.Ya., Fediv O.I. (Chernivtsi, Ukraine). Determination of endothelial dysfunction in patients with chronic obstructive pulmonary disease with and without diabetes mellitus type II by the content of endothelial cells in blood.*
19. *Svintsitskyi A.S. (Kyiv, Ukraine). Clinical course and treatment of bronchial asthma in the elderly.*
20. *Yatsevich O. N., Alekseychik D. S. (Minsk, Belarus). Cholesterol level as a marker of community-acquired pneumonia severity.*

13 October, Sunday

9.00 – 10.00 - Mass in St. Alexander Cathedral

10.00 - 10.30 - Business meeting-2

Cultural Program

