

PROGRAM



IUPS-BRICS CONFERENCE "STRESS IN HEALTH AND DISEASE"

December 17, 2021

I.P. Pavlov Institute of Physiology
Russian Academy of Science

Saint-Petersburg
Russia



ORGANIZERS OF THE CONFERENCE

I.P. Pavlov Institute of Physiology
Russian Academy of Sciences (RAS)
International Union of Physiological Sciences (IUPS)
Department of Physiological Sciences RAS

ORGANIZING COMMITTEE

Chair:

Ludmila Filaretova

Members of the Committee:

Elena Rybnikova
(vice-chair)

Tatiana Moshonkina

Ekaterina Savelyeva

Dora Zelena

PROGRAM COMMITTEE

Chairs:

Ludmila Filaretova

Julie Y.H. Chan

Jayasree Sengupta

Members of the Committee:

Thomas Brzozowski

Duan Chen

Daniela Jezova

Klara Gyires

Supported by the Ministry of Science and Higher Education of the Russian Federation (agreement No. 075-15-2020-921 for the creation and development of the World-Class Scientific Center (WCSC) Pavlov Center "Integrative Physiology - to Medicine, High-tech Healthcare and Technologies of Stress Resistance").

On behalf of the Organizing Committee of IUPS-BRICS conference "Stress in health and disease" we welcome you to Pavlov Institute Physiology, unfortunately this time on-line. The first IUPS-BRICS meeting on Stress was held in Pavlov Institute of Physiology RAS in 2019.

Historical perspective & Venue: Pavlov Institute of Physiology of the Russian Academy of Sciences was founded in 1925. The first Director of the Institute of Physiology until 1936 was the first Nobel Prize winner in theoretical medicine Academician Ivan P. Pavlov. Pavlov is considered as a founder of integrative physiology. In 2025 Pavlov Institute of Physiology will celebrate the 100th anniversary.

Future prospects: We are pleased to inform you that our project on creation of the World-Class Scientific Center (WCSC), which we discussed in 2019, was supported by the Ministry of Science and High Education of the Russian Federation at August 28, 2020. WCSCs were created in the format of consortia within the framework of the Russian national project "Science" to perform breakthrough research on the priorities of scientific and technological development. We are very grateful to the President of IUPS Prof. Julie Chan for her great support.

WCSC Pavlov Center "Integrative Physiology - to Medicine, High-tech Healthcare and Technologies of Stress Resistance" was established on the basis of Pavlov Institute of Physiology Russian Academy of Sciences with the participation of several other scientific organizations we invited: Sechenov Institute of Evolutionary Physiology and Biochemistry RAS, Saint Petersburg Electrotechnical University "LETI" and State Scientific Center of Russian Federation Institute of Medical and Biological Problems.

The Theme of this conference is Stress. The topic is critically important for development of integrative physiology. The Father of Stress concept Hans Selye foretold: "Stress in health and disease is medically, sociologically, and philosophically the most meaningful subject for humanity".

In the frame of the Pavlov Center project we organize this conference to exchange by new knowledge on stress and discuss possible cooperation.

Ludmila Filaretova

Chair of the Organizing Committee

Director of Pavlov Institute of Physiology RAS

Head of the WCRC Pavlov Center "Integrative Physiology to Medicine, High-tech Healthcare and Technologies of Stress Resistance"

December 17, 2021
Pavlov Institute of Physiology
Russian Academy of Sciences
On-line

Morning Session (11-14 Moscow time)
(25 min talk including 5 min discussion)

**Greeting from the President of International Union
of Physiological Sciences**
Prof. Julie Chan

Jayasree Sengupta (*Chair of the BGA-IUPS*)
Physiology - Challenges and the Way Forward: the BGA-IUPS story

Ludmila Filaretova (*Pavlov Institute of Physiology, Russian
Academy of Science, St.Petersburg, Russia*)
Integrative physiology and stress

Jayasree Sengupta and Debabrata Ghosh (*Department of
Physiology, All India Institute of Medical Sciences, New Delhi, India,
(JS currently retired)*)
Pathophysiological basis of endometriosis

Klara Gyires (*Department of Pharmacology and Pharmacotherapy,
Semmelweis University, Budapest, Hungary*)
Why psychosocial stress, and psychiatric disorders affect integrity
of gastrointestinal mucosa and vice versa?

Thomas Brzozowski (*Department of Physiology, Faculty of
Medicine, Jagiellonian University Medical College, Cracow, Poland*)
Brain-gut-microbiota axis - role of potential stressors"

**Natalia Supolkina, Vadim Gushin, Dmitry Shved, Anna
Yusupova, Angelina Chekalina** (*Russian Federation State Scientific
Center - Institute of Biomedical problems of the Russian Academy
of Sciences, Moscow, Russia*)
Stress coping in space crew communication during regular and
intensive workload

Break

Afternoon Session (15-18 Moscow time)

(25 min talk including 5 min discussion)

Daniela Jezova (*Biomedical Research Center, Institute of Experimental Endocrinology, Slovak Academy of Sciences, Slovakia*)

Sympathetic activation and catecholamines in relation to stress and development

Dora Zelena (*Behavioral Neurobiology, Institute of Experimental Medicine, Budapest, Centre for Neuroscience, Szentágotthai Research Centre, Institute of Physiology, Medical School, University of Pécs, Pécs, Hungary*)

Metabolic influence on the development of posttraumatic stress disorder

Alexander V. Ovechkin (*Kentucky Spinal Cord Injury Research Center, The University of Louisville, Department of Neurosurgery, Louisville, Kentucky*).

Spinal neuromodulation as a novel approach to restore autonomically-mediated multifunctional deficits associated with spinal cord injury stress

Serguei O. Fetissov (*University of Rouen Normandy, Mont-Saint-Aignan, France; Pavlov Institute of Physiology, Russian Academy of Science, St.Petersburg, Russia*)

Corticotropin reactive immunoglobulins in stress-related disorders

Elena Rybnikova (*Pavlov Institute of Physiology, Russian Academy of Science, St.Petersburg, Russia*)

Hypoxic preconditioning techniques as a tool for increasing the body's resistance to stress

Duan Chen (*Department of Cancer Research and Molecular Medicine, Norwegian University of Science and Technology, Trondheim 7491, Norway*)

The link between stress and cancer: potential role of nerves



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