

PROGRAMME AT A GLANCE

SEPTEMBER 5, 2018

16:00 – 20:00 **Registration**

17:30 – 18:00 **Opening**

18:00-19:00 **Keynote Lecture**

19:15-21:00 **Welcome Session**

SEPTEMBER 6, 2018

08:00 – 18:30 **Registration**

08:30-10:30 Symposium

Redox regulation in pathophysiology of cardiovascular and neurodegenerative diseases

08:30-10:30 Symposium

Translational neuroscience of mental disorders

08:30-10:30 Clinical Symposium

Cardiology: from bench to bedside

10:30-11:00 **Coffee Break**

11:00 – 12:20 **Plenary Session 1**

12:20-13:30 **Lunch Break**

13:30-15:30 Symposium

Genetic and nutritional factors in pathophysiology - Redox signalling

13:30-15:30 Symposium

Pathophysiology of intra- & intercellular regulation (part 1)

13:30-15:30 Clinical Symposium

New frontiers around psychopathology

15:30-16:00 **Coffee**

15:30 -16:30 **Poster Sessions A1, A2, B1, B2**

16:30-18:30 Symposium

Metabolic syndrome and cardiovascular risk

16:30-18:30 Symposium

Pathophysiology of intra- & intercellular regulation (part 2)

16:30-18:30 Clinical Symposium

Autism spectrum disorders – targeting pathomechanisms

18:30 -19:30 **ISP Committee Meeting**

SEPTEMBER 7, 2018

08:00 – 17:00 **Registration**

08:30-10:30 Symposium

Pathophysiological mechanisms of experimental hypertension

08:30-10:30 Oral Presentations

Neuropsychiatric disorders

10:30-11:00 **Coffee Break**

11:00 – 12:20 **Plenary Session 2**

12:20-13:30 **Lunch Break**

13:30-15:30 Symposium

Vascular damage: novel mechanisms and therapeutic opportunities

13:30-15:30 Oral Presentations

Food supplements in disease prevention and treatment

15:30-16:00 **Coffee**

15:30 -16:30 **Poster Sessions C1, C2, C3, D**

17:15 **Walking tour**

19:30 – 22:30 **Gala Dinner**

SEPTEMBER 8, 2018

08:00 – 12:00 **Registration**

08:30-10:30 Symposium

Chronodisruption and life style disease

08:30-10:30 Oral Presentations

Gastrotransmitters, neurotransmitters and peptides in diseased states

08:30-10:30 Oral Presentations

Teaching in pathophysiology

10:30-11:00 **Coffee**

10:30-11:30 **Poster Sessions E1, E2, E3**

11:30-12:00 **Closing Ceremony**

DETAILED SCIENTIFIC PROGRAMME

Wednesday, September 5, 2018

18:00–19:00, KEYNOTE LECTURE, Plenary Hall

Chairperson: Olga Pechanova, Slovakia

Speaker: Pavel Hamet, Canada

Lecture title: Relative importance of clinical vs. genomic risk determinants in pathophysiology of diabetes complications

Thursday, September 6, 2018

8:30–10:30, SYMPOSIUM, Hall 1

REDOX REGULATION IN PATHOPHYSIOLOGY OF CARDIOVASCULAR AND NEURODEGENERATIVE DISEASES

Chairperson 1: Samuel H. H. Chan, Taiwan

Chairperson 2: Ima Dovinova, Slovakia

Speaker 1: Julie Y. H. Chan, Taiwan (30 minutes)

Lecture title: Tissue oxidative stress in the programming of organ injury associated with metabolic syndrome of developmental origin

Speaker 2: Samuel H. H. Chan, Taiwan (30 minutes)

Lecture title: Brain-derived neurotrophic factor (BDNF) as an endogenous antioxidant in animal models of disease

Speaker 3: Vittorio Calabrese, Italy (30 minutes)

Lecture title: Effects of *Coriolus versicolor* treatment on oxidative stress, redox homeostasis and cellular stress response in MÈNIÈRE'S DISEASE. A rationale for therapeutic intervention in neuroinflammation and antineurodegeneration.

Speaker 4: Ima Dovinova, Slovakia (15 minutes)

Lecture title: Aberrant redox regulation and risk markers development in cardiovascular diseases

Speaker 5: Guliz Armagan, Turkey (15 minutes)

Lecture title: Regulation of Nrf2/ARE pathway through GSK-3 β inhibition in neurodegeneration

8:30–10:30, SYMPOSIUM, Hall 2

TRANSLATIONAL NEUROSCIENCE OF MENTAL DISORDERS*

Chairperson 1: Jianzhi Wang, China

Chairperson 2: Igor Riečanský, Slovakia

Speaker 1: Jianzhi Wang, China (30 minutes)

Lecture title: Identification of pBLA-vCA1 circuit and its role in emotion-modulated spatial memory

Speaker 2: Gabor Csukly, Hungary (30 minutes)

Lecture title: EEG markers of early cognitive decline in mild cognitive impairment

Speaker 3: Jiri Horacek, Czech Republic (30 minutes)

Lecture title: The translational approach to modelling schizophrenia: pharmacological studies in humans and rats

Speaker 4: Igor Riečanský, Slovakia (15 minutes)

Lecture title: An emerging role of nitric oxide in schizophrenia

Speaker 5: Daniela Jezova, Slovakia (15 minutes)

Lecture title: Potential pathophysiological role of aldosterone in major depressive disorder

* This symposium is supported by the Slovak Research and Development Agency (grant number APVV-14-0840).

8:30–10:30, CLINICAL SYMPOSIUM, Hall 3

CARDIOLOGY: FROM BENCH TO BEDSIDE

Chairperson 1: Robert Mistrik, Slovakia

Chairperson 2: Ludovít Paulis, Slovakia

Speaker 1: Fedor Simko, Slovakia (30 minutes)

Lecture title: Anticoagulation independent effects of oral anticoagulants: On the search for the vasculoprotective effect of rivaroxaban (sponsored by Bayer, spol. s r. o.)

Speaker 2: Ludovít Paulis, Slovakia (30 minutes)

Lecture title: Means for experimental and clinical RAAS profile modulation

Speaker 3: Oliver Domenig, Austria (30 minutes)

Lecture title: Angiotensin based biomarkers for molecular profiling and drug efficacy monitoring in hypertension (sponsored by Attoquant Diagnostics GmbH)

Speaker 4: Robert Mistrik, Slovakia (30 minutes)

Lecture title: Introduction to a comprehensively annotated LC/MSn database: application for drug development, research and treatment diagnosis (20 minutes)

11:00–12:20, PLENARY SESSION, Plenary Hall

Chairperson: Julie Y. H. Chan, Taiwan

Speaker 1: Rhian M. Touyz, United Kingdom (40 minutes)

Lecture title: Molecular and vascular pathophysiology of hypertension

Speaker 2: Samuel H.H. Chan, Taiwan (40 minutes)

Lecture title: Understanding brain death: Insights from translational medicine

13:30–15:30, SYMPOSIUM, Hall 1

GENETIC AND NUTRITIONAL FACTORS IN PATHOPHYSIOLOGY - REDOX SIGNALING

Chairperson 1: Cesar G. Fraga, Argentina

Chairperson 2: Joao Laranjinha, Portugal

Speaker 1: Enrique Cadenas, USA (30 minutes)

Lecture title: Mitochondrion-centric approach to brain aging and Alzheimer's

Speaker 2: Patricia I. Oteiza, USA (30 minutes)

Lecture title: Zinc and redox signaling in brain development

Speaker 3: Joao Laranjinha, Portugal (30 minutes)

Lecture title: Nitric oxide-mediated mechanisms in Alzheimer's disease

Speaker 4: Giuseppe Valacci, USA (30 minutes)

Lecture title: Redox signaling in Rett syndrome

13:30–15:30, SYMPOSIUM, Hall 2

PATHOPHYSIOLOGY OF INTRA- & INTERCELLULAR REGULATION I

Chairperson 1: Anatolii Kubyskhin, Russian Federation

Chairperson 2: Johanne Tremblay, Canada

Speaker 1: Johanne Tremblay, Canada (30 minutes)

Lecture title: Role of COMMD5 in cancer as a regulator of endosomal trafficking and EGFR transport and activity

Speaker 2: Pavol Janega, Slovakia (30 minutes)

Lecture title: Current research of regulatory pathways provides new molecular therapeutic targets improving the prognosis of patients with malignant melanoma

Speaker 3: Anatolii Kubyskhin, Russian Federation (20 minutes)

Lecture title: Multipotent mesenchymal bone marrow-derived stem cells and apoptotic bodies of cardiomyocytes in process of myocardium reparative morphogenesis

Speaker 4: Irina Guzhova, Russian Federation (20 minutes)

Lecture title: Chaperones as molecular targets in oncological and neurodegenerative diseases

Speaker 5: Boris Margulis, Russian Federation (20 minutes)

Lecture title: Prion-like intercellularly transmitted pathologies

13:30–15:30, CLINICAL SYMPOSIUM, Hall 3

NEW FRONTIERS AROUND PSYCHOPATHOLOGY

Chairperson 1: Spiridione Masaraki, Italy

Chairperson 2: Yuko Urakami, Japan

Speaker 1: Andrea Crocetti, Italy (30 minutes)

Lecture title: Tinnitus composite discomfort

Speaker 2: Federico Colombo, Italy (30 minutes)

Lecture title: Gambling Disorder: Personality characteristics in a clinical sample

Speaker 3: Roberto Truzoli, Italy (30 minutes)

Lecture title: A comparison between group cognitive behavioural therapy with and without text messaging (SMS) to support compliance in depressed and anxious outpatients

Speaker 4: Caterina Viganò, Italy (15 minutes)

Lecture title: Psychogenetic dysphagia integrated approach for diagnosis and treatment

Speaker 5: Yuko Urakami, Japan (15 minutes)

Lecture title: Music training is associated with magnetoencephalographic gamma- and alpha-band oscillation binding with attention and consciousness

15:30–16:30, POSTER SESSIONS A1, A2, B1, B2

SESSION A1: BRAIN AND BEHAVIOURAL DISORDERS I

Chairpersons A1: Natasa Hlavacova, Filip Tichanek

SESSION A2: BRAIN AND BEHAVIOURAL DISORDERS II

Chairpersons A2: Julia O. Fedotova, Fedor Jagla

SESSION B1: RENAL AND GASTROINTESTINAL DISORDERS

Chairpersons B1: Jana Radosinska, Libor Kopkan

SESSION B2: RESPIRATORY DISORDERS

Chairpersons B2: Alina E. Parvu, Jozef Torok



16:30–18:30, SYMPOSIUM, Hall 1

METABOLIC SYNDROME AND CARDIOVASCULAR RISK

Chairperson 1: Satomi Kagota, Japan

Chairperson 2: Olga Pechanova, Slovakia

Speaker 1: Olga Pechanova, Slovakia (30 minutes)

Lecture title: Experimental metabolic syndrome: standard and alternative therapies

Speaker 2: Satomi Kagota, Japan (30 minutes)

Lecture title: Compensatory effects of perivascular adipose tissue on vasodilation differ

by vascular site and age in rats with metabolic syndrome

Speaker 3: Peter Ferdinandy, Hungary (30 minutes)

Lecture title: Why do we still not have cardioprotective drugs on the market? Importance of risk factors and unbiased ways to identify drug targets

Speaker 4: Martina Cebova, Slovakia (15 minutes)

Lecture title: The effect of palmitate exposure in utero on systolic and vascular function in mice

Speaker 5: Iona Mozos, Romania (15 minutes)

Lecture title: Predictors of early arterial aging in patients with high normal blood pressure and hypertension

16:30–18:30, SYMPOSIUM, Hall 2

PATHOPHYSIOLOGY OF INTRA- & INTERCELLULAR REGULATION II

Chairperson 1: Anatolii Kubyshkin, Russian Federation

Chairperson 2: Svetlana Gusakova, Russian Federation

Speaker 1: Alexandr Kazimirsky, Russian Federation (20 minutes)

Lecture title: Features of the immunopathogenesis of atopic diseases: from expression of surface markers of lymphocytes to immunopathogenesis

Speaker 2: Svetlana Gusakova, Russian Federation (20 minutes)

Lecture title: Contractile activity of a pulmonary artery at volume change of smooth muscles cells

Speaker 3: Irina Bryndina, Russian Federation (20 minutes)

Lecture title: Sphingolipid signaling in disused skeletal muscle

Speaker 4: Iryna Fomochkina, Russian Federation (15 minutes)

Lecture title: Intercellular interactions in the endometrial hyperplasia-related inflammation development

Speaker 5: Leonid Kapilevich, Russian Federation (15 minutes)

Lecture title: General trends of myokines production under physical exercises of a different types and intensity

Speaker 6: Han Xiao, China (15 minutes)

Sympathetic stress and cardiac injuries

16:30–18:30, CLINICAL SYMPOSIUM, Hall 3

AUTISM SPECTRUM DISORDERS – TARGETING PATHOMECHANISMS

Chairperson 1: Daniela Ostatnikova, Slovakia

Chairperson 2: Katarina Babinska, Slovakia

Speaker 1: Silvia Hnilicova, Slovakia (30 minutes)

Lecture title: Autism etiology, screening and diagnosis

Speaker 2: Daniela Ostatnikova, Slovakia (30 minutes)

Lecture title: The role of steroids in autism pathogenesis

Speaker 3: Katarina Babinska, Slovakia (30 minutes)

Lecture title: Inflammation in pathogenesis of autism

Speaker 4: Aleksandra Tomova, Slovakia (30 minutes)

Lecture title: The gut microbiota and autism

Friday, September 7, 2018

8:30–10:30, SYMPOSIUM, Hall 1

PATHOPHYSIOLOGICAL MECHANISMS OF EXPERIMENTAL HYPERTENSION

Chairperson 1: Ivana Vaneckova, Czech Republic

Chairperson 2: Iveta Bernatova, Slovakia

Speaker 1: Ivana Vaneckova, Czech Republic (30 minutes)

Lecture title: Chronic kidney disease in Ren-2 transgenic rats and its treatment with endothelin receptor antagonists

Speaker 2: Elzbieta Kompanowska Jezierska, Poland (30 minutes)

Lecture title: Effects of chronic blockade of chymostatin-sensitive enzymes in experimental hypertension

Speaker 3: Libor Kopkan, Czech Republic (30 minutes)

Lecture title: Pathophysiology of congestive heart failure in experimental hypertensive models

Speaker 4: Angelika Puzserova, Slovakia (30 minutes)

Lecture title: Endothelial aging in spontaneously hypertensive rats

8:30–10:30, ORAL SESSION, Hall 2

NEUROPSYCHIATRIC DISORDERS

Chairperson 1: Daniela Jezova, Slovakia

Chairperson 2: Artem Grigoryan, Armenia

Speaker 1: Artem Grigoryan et al., Armenia (15 minutes)

Presentation title: The behavioral characteristics of hypokinetic syndrome in rats

Speaker 2: Tomas Hromadka et al., Slovakia (15 minutes)

Presentation title: Systems approaches in neurodegeneration: Linking molecular pathology with cognitive deficits in Alzheimer's disease

Speaker 3: Filip Tichanek et al., Czech Republic (15 minutes)

Presentation title: Pathological phenotype of mouse model of rapid-onset spinocerebellar ataxia type 1

Speaker 4: Eszter Bogi et al., Slovakia (15 minutes)

Presentation title: How can maternal stress and/or antidepressants affect behavior of rat offspring?

Speaker 5: Natasa Hlavacova et al., Slovakia (15 minutes)

Presentation title: Patients with atopy exhibited attenuated neuroendocrine response during psychosocial stress

Speaker 6: Leonid P. Churilov et al., Russian Federation (15 minutes)

Presentation title: On the Pathogenesis of Psychic Disorders in Hashimoto's Thyroiditis

Speaker 7: Julia O. Fedotova et al., Russian Federation (15 minutes)

Presentation title: Effects of vitamin D3 treatment on anxiety-like behavior of the middle-aged female rats after long-term ovariectomy (15 minutes)

Speaker 8: Andrea Mestanikova et al., Slovakia (15 minutes)

Presentation title: Pupillometry in adolescent depression

11:00–12:20, PLENARY SESSION, Plenary hall

Chairperson: Yoshihiro Ishikawa, Japan

Speaker 1: Boris V. Krylov Russian Federation (40 minutes)

Lecture title: Pathological pain: can it be safely cured?

Speaker 2: Ming Xu, China (40 minutes)

Lecture title: G-quadruplex and heart fiction

13:30–15:30, SYMPOSIUM, Hall 1

VASCULAR DAMAGE, NOVEL MECHANISMS AND THERAPEUTIC OPPORTUNITIES

Chairperson 1: Concepcion Peiro, Spain

Chairperson 2: Silvia Arribas, Spain

Speaker 1: Concepcion Peiro, Spain (30 minutes)

Lecture title: Diabetes, adipokines and vascular damage: which role for interleukin-1 β ?

Speaker 2: Silvia Arribas, Spain (30 minutes)

Lecture title: Vascular remodelling: therapeutic targets and opportunity windows

Speaker 3: Maria Bloksgaard, Denmark (30 minutes)

Lecture title: Determinants of vascular smooth muscle contractility in resistance arteries from patients with residual cardiovascular disease

Speaker 4: Yoshihiro Ishikawa, Japan (15 minutes)

Lecture title: Vascular graft made from cultured cells

Speaker 5: Silvia Liskova, Slovakia (15 minutes)

Lecture title: Comparison of Ca²⁺-dependent Cl⁻ channels blockade and endothelium-derived constricting factor in norepinephrine-induced contraction of rat femoral artery



13:30–15:30, ORAL PRESENTATIONS, Hall 2

FOOD SUPPLEMENTS IN DISEASE PREVENTION AND TREATMENT

Chairperson 1: Patricia I. Oteiza, USA

Chairperson 2: Vittorio Calabrese, Italy

Speaker 1: Iveta Bernatova et al., Slovakia (20 minutes)

Presentation title: Involvement of calcium channels in (-)-epicatechin-induced vasorelaxation

Speaker 2: Gabriele Di Rosa et al., Italy, Germany (20 minutes)

Presentation title: Olive oil polyphenols show beneficial effects in two *C. elegans* Parkinson models

Speaker 3: Alina E. Parvu et al., Romania (15 minutes)

Presentation title: Polyphenolic compounds, antioxidant and cardioprotective effects of pomace extracts from Feteasca Neagra and Pinot cultivars

Speaker 4: Monika Bartekova et al., Slovakia (15 minutes)

Presentation title: Cardioprotective effects of quercetin against ischemia-reperfusion injury in isolated juvenile and adult rat hearts

Speaker 5: Lyudmila U. Belyaeva et al., Belarus (15 minutes)

Presentation title: Resveratrol attenuates NO-dependent coronary vessels tone dysregulation and modifies sirtuin-1 expression in the myocardium of prenatally stressed rats

Speaker 6: Jovana Jeremic et al., Serbia (15 minutes)

Presentation title: Cardioprotective effects of diallyl trisulfide in a rat model of type-1 diabetes mellitus

Speaker 7: Tamara Nikolic Turnic et al., Serbia (15 minutes)

Lecture title: Plasma phospholipid fatty acid profile in rats with different degree of diet-induced hyperhomocysteinemia

15:30–16:30, POSTER SESSIONS C1, C2, C3, D

SESSION C1: ATHEROSCLEROSIS AND VASCULAR DISORDERS

Chairpersons C1: Silvia M. Arribas, Andrea Berenyiova

SESSION C2: HIGH BLOOD PRESSURE

Chairpersons C2: Elzbieta Kompanowska Jezierska, Sonja Cacanyiiova

SESSION C3: HEART DISEASES

Chairpersons C3: Irina Guzhova, Monika Bartekova

SESSION D: TEACHING IN PATHOPHYSIOLOGY

Chairpersons D: Silvia Hnilicova, Peter F. Litvitskiy

Saturday, September 8, 2018

8:30–10:30, SYMPOSIUM, Hall 1

CHRONODISRUPTION AND LIFE STYLE DISEASE

Chairperson 1: Bert van der Horst, The Netherlands

Chairperson 2: Michal Zeman, Slovakia

Speaker 1: Michal Zeman, Slovakia (30 minutes)

Lecture title: Artificial light at night as a risk factor for health

Speaker 2: Bert van der Horst, The Netherlands (30 minutes)

Lecture title: Impact of circadian disturbance on later life health

Speaker 3: Alena Sumova, Czech Republic (30 minutes)

Lecture title: Regulation of colonic circadian clock and impact of its disruption

Speaker 4: Monika Okuliarova, Slovakia (15 minutes)

Lecture title: Effects of light at night on immune cell distribution and their daily rhythms in the circulation and tissues

Speaker 5: Kristina Hasakova, Slovakia (15 minutes)

Lecture title: Expression of clock gene in colorectal cancer patients is dependent on tumor location



8:30–10:30, ORAL SESSION, Hall 2

GASSOTRANSMITTERS, NEUROTRANSMITTERS AND PEPTIDES IN DISEASED STATES

Chairperson 1: Josef Zicha, Czech Republic

Chairperson 2: Vladimir Lj. Jakovlevic, Serbia

Speaker 1: Josef Zicha et al., Czech Republic (20 minutes)

Presentation title: Is Angiotensin II-Dependent Hypertension in Ren-2 Transgenic Rats Driven by Central Sympathoexcitation?

Speaker 2: Vladimir Lj. Jakovlevic et al., Serbia (20 minutes)

Presentation title: The effects of potassium cyanide on functional recovery of isolated rat heart after ischemia and reperfusion: role of oxidative stress

Speaker 3: Jozef Torok and Anna Zemancikova (15 minutes)

Presentation title: Attenuation of anticontractile effect of perivascular adipose tissue might contribute to the development of hypertension

Speaker 4: Sona Cacanyiova et al., Slovakia (15 minutes)

Presentation title: The interaction of hydrogen sulfide with NO-synthase and NO donors triggers specific vasoactive effects in isolated arteries of rats and patients with arterial hypertension

Speaker 5: Sergio Modafferi et al., Italy (15 minutes)

Presentation title: Hydrogen sulfide and its interaction with carnosine metabolism

Speaker 6: Hongzhu Li et al., China, Canada (15 minutes)

Presentation title: Exogenous H₂S contributes to recovery of ischemic post-conditioning-induced cardioprotection via increase of autophagy in the aged hearts

Speaker 7: Andrea Bereniyova, Slovakia (15 minutes)

Presentation title: Age and increased blood pressure modulated the nitric oxide and hydrogen sulphide signalisations in spontaneously hypertensive rats

8:30–10:30, ORAL PRESENTATIONS, Hall 3

TEACHING IN PATHOPHYSIOLOGY

Chairperson 1: Angelika Puzserova, Slovakia

Chairperson 2: Georgi M. Sarov, Bulgaria

Speaker 1: Zdenko Kovac, Croatia (30 minutes)

Presentation title: Integrative education and cognitive tools for tomorrow medicine: Pathophysiological reactivity outlined via algorithmic networks and etiopathogenetic clusters fits the criteria of graph theory

Speaker 2: Georgi M. Sarov et al., Bulgaria (20 minutes)

Presentation title: The role of pathophysiology in building medical knowledge

Speaker 3: Silvia Hnilicova et al., Slovakia (20 minutes)

Presentation title: Simulation-Based Learning in Human Physiology and Pathophysiology at Comenius University

Speaker 4: Artem Grigoryan et al., Armenia (20 minutes)

Presentation title: “Becoming a cancer” board game as a form of a practical class in pathophysiology

Speaker 5: Peter F. Litvitskiy, Russian Federation (20 minutes)

Presentation title: Systemic multilevel teaching of pathophysiology in a medical school

10:30–11:30, POSTER SESSIONS E1, E2, E3

SESSION E1: INFLAMMATION

Chairpersons E1: Tamara Nikolic, Anna Vasku

SESSION E2: CANCER

Chairpersons E2: Johanne Tremblay, Han Xiao

SESSION E3: METABOLIC DISORDERS

Chairpersons E3: Vladimir Zivkovic, Martina Cebova

