Dear Colleagues and Friends,

Nineteen years after the first international symposium Nitric Oxide: from Molecular Level to Clinical Application, held in Bratislava in June 1999, it is my great pleasure to welcome you to the 10th International Nitric Oxide Symposium. This Symposium is the satellite symposium of the 8th International Congress of Pathophysiology, held in Bratislava on 5-8 September, 2018.

The previous Nitric Oxide symposia were focused on the role of this simple but miraculous molecule in regulation of physiological processes as well as on pharmacological interventions associated with nitric oxide-related mechanisms. As numerous evidences show the enormous impact of nitric oxide in health and diseased states, this Symposium is focused on up-to-day knowledge of the regulatory and modulating effects of nitric oxide in fundamental physiological processes as well as in lifestyle-related diseases.

We are glad that the distinguished researchers, authors of the unique findings, will share their knowledge with us and give the key-note lectures on latest findings in "nitric oxide" research.

On behalf of the Organizing Committee, I wish you a fruitful symposium and a pleasant stay in this picturesque area of the Smolenice Castle, the Congress Centre of the Slovak Academy of Sciences.

Iveta Bernátová
Iveta Bernátová (*Slovakia*) - Chairwoman

Silvia M. Arribas (*Spain*)

Oľga Pecháňová (*Slovakia*)

Josef Zicha (*Czech Republic*)

Cesar G. Fraga (*Argentina, USA*)

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Iveta Bernátová - Chairwoman

Peter Bališ

Andrea Berényiová

Martina Cebová

Soňa Čačányiová

Ima Dovinová

Michal Kluknavský

Michaela Košútová

Oľga Pecháňová

Angelika Púzserová

Valéria Regecová
3 September, 2018

Registration 12:30 - 15:00
Opening Ceremony 15:00 - 15:15
Oral Session I 15:15 - 17:25
Dinner 18:30 - 21:00

4 September, 2018

Breakfast 07:00 - 08:30
Oral Session II 08:30 - 10:25
Coffee Break 10:25 - 10:45
Oral Session III 10:45 - 12:45
Lunch Break 12:45 - 14:00
Poster Sessions I and II 14:00 - 15:15
Social Programme 15:30 - 18:30
APVV Project Meetings 15:30 - 16:30
Garden Party 19:00 - 21:30

5 September, 2018

Breakfast 07:30 - 09:00
Oral Session IV 09:00 - 11:10
Closing Remarks 11:10
Lunch 11:30 - 12:30
Departure to Bratislava 12:30
Scientific programme includes 40-min key-note lectures, 30-min invited lectures, oral presentations and moderated posters.

All presentations will be followed by a 5-minute-long discussion. There will be a data-projector with Windows 8 and PowerPoint 2010 provided for projection. Private notebooks are not recommended.

Posters should be assembled on September 4, 2018 before 9:00 and discarded after the poster session. Poster sessions will be moderated. Each author is expected to provide a brief (max. 5 min) information on the main findings of his/her study.

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**INVITED KEY-NOTE LECTURERS**

**NITRIC OXIDE: From Basic Regulations To Lifestyle-Related Diseases 2018**

Julie Y. H. Chan, President of the International Union of Physiological Societies, Institute for Translational Research in Biomedicine, Kaohsiung Chang Gung Memorial Hospital, Kaohsiung, Taiwan: **Nitric oxide signaling in the development of hypertension associated with metabolic syndrome**
Silvia M. Arribas, Department of Physiology, School of Medicine, Universidad Autónoma de Madrid, Madrid, Spain: **Endothelial dysfunction in fetal programming of hypertension**

Cesar G. Fraga, Department of Nutrition, University of California, Davis, USA; Director of the Fisicoquímica, Facultad de Farmacia y Bioquímica, Universidad de Buenos Aires, Buenos Aires, Argentina; Instituto de Bioquímica y Medicina Molecular (IBIMOL), University of Buenos Aires-CONICET, Buenos Aires, Argentina: **Epicatechin as a paradigm of bioactives that regulate nitric oxide bioavailability**

Samuel H. H. Chan, Director of the Institute for Translational Research in Biomedicine, Kaohsiung Chang Gung Memorial Hospital, Kaohsiung, Taiwan: **Impacts of oxidative stress and nitrosative stress on baroreflex dysregulation: clinical and therapeutic implications**
12:30 – 15:00 Registration
15:00 – 15:15 Opening Ceremony

15:15 – 17:25 NITRIC OXIDE IN HYPERTENSION DEVELOPMENT I
Chairwomen: J. Y. H. Chan, I. Bernatova

15:15 – 16:00
Key-note lecture
J. Y. H. Chan; Taiwan
Nitric oxide signaling in the development of hypertension associated with metabolic syndrome

16:00 – 16:45
Key-note lecture
Endothelial dysfunction in fetal programming of hypertension

16:45 – 17:05
S. Kagota, K. Maruyama, M. Nagai, B. N. Van Vliet, K. Shinozuka; Japan/Canada
Maternal high-salt intake during gestation triggers dysfunction of nitric oxide-mediated vasorelaxation in adulthood

17:05 – 17:25
S. Liskova, M. Petrova, J. Kunes, J. Zicha; Slovakia/Czech Republic
Effect of Ca\textsuperscript{2+}-dependent Cl\textsuperscript{-} channels blockade on norepinephrine-induced contraction of the rat femoral arteries during ageing
8:30 – 10:25  NITRIC OXIDE IN HYPERTENSION DEVELOPMENT II

Chairmen: S. H. H. Chan, J. Zicha

8:30 – 9:15

Key note lecture
S. H. H. Chan; Taiwan
Impacts of oxidative stress and nitrosative stress on baroreflex dysregulation: clinical and therapeutic implications

9:15 – 9:40

J. Zicha, M. Behuliak, A. Brunova, I. Vaneckova; Czech Republic
Nitric oxide and calcium sensitization in experimental hypertension

9:40 – 10:05

I. Vaneckova, L. Rezacova, S. Hojna, H. Rauchova, M. Kadlecova, J. Zicha; Czech Republic
Sympathoinhibition induced by systemic or central RAS blockade lowers blood pressure in hypertensive Ren-2 transgenic rats

10:05 – 10:25

M. Cebova, J. Klimentova, A. Barta, S. Vrankova, O. Pechanova; Slovakia
The effect of renin-angiotensin-aldosteron system's inhibitors on cardiovascular system in experimental hypertension

10:25 – 10:45 Coffee Break
10:45 – 12:45 NATURAL POLYPHENOLS AND NITRIC OXIDE BIOAVAILABILITY

Chairpersons: C. G. Fraga, O. Pechanova

10:45 – 11:30

Key note lecture
C. G. Fraga, M. Galleano; USA/Argentina
Epicatechin as a paradigm of bioactives that regulate nitric oxide bioavailability

11:30 – 11:55

I. Bernatova, P. Balis, M. Kluknavsky, A. Zemancikova, J. Torok, A. Puzserova; Slovakia
Antihypertensive and vasorelaxing effects of (-)-epicatechin in spontaneously hypertensive rats

11:55 – 12:20

O. Pechanova; Slovakia
Effect of natural polyphenols in experimental model of metabolic syndrome

12:20 – 12:45

M. Barancik, M. Bartekova, M. Fogarassyova, L. Okruhlicova, N. Tribulova, I. Dovinova; Slovakia
Mechanisms involved in beneficial effects of quercetin against doxorubicin-induced changes in blood pressure and heart function in rats

12:45 – 14:00 Lunch Break

14:00 – 15:15 Poster Sessions and Informal Discussions

15:30 – 18:30 Social Programme

15:30 – 16:30 APVV Project Meetings

19:00 – 21:30 Garden Party
9:00 – 11:10 NITRIC OXIDE AND HYDROGEN SULFIDE CROSSTALK

Chairpersons: M. Ufnal, S. Cacanyiova

9:00 - 9:35
Invited presentation
M. Ufnal; Poland
Gut microbiota as the origin of gasotransmitters acting on the circulatory system

9:35 - 10:10
Invited presentation
L. Kiss, A. Stensønes Dybvig, G. Marosi, E. Dongó; Hungary
The role of hydrogen sulfide in the regulation of vascular tone - Implications for aging and type 2 diabetes

10:10 - 10:30
A. Berenyiova, M. Grman, K. Ondrias, F. Kristek, S. Cacanyiova; Slovakia
Age- and hypertension-related changes in vasoactive effects of NO and H₂S in spontaneously hypertensive rats

10:30 - 10:50
K. Ondrias, V. Brezova, A. Misak, M. Grman; Slovakia
EPR spin trap study of H₂S, polysulfides and products of H₂S/NO-donor interaction to scavenge •cPTIO, superoxide and hydroxyl radicals

10:50 - 11:10
S. Cacanyiova, A. Berenyiova, M. Grman, K. Ondrias, F. Kristek, J. Breza; Slovakia
NO and H₂S cross-talk in vasomotor responses of isolated rat and human arteries

11:10 – Closing Remarks
Chairwomen I: P. Oteiza, M. Cebova

Erythrocyte nitric oxide production in Slovak children with autism spectrum disorder: correlations with clinical features

2. R. Rovny, M. Marko, G. Repiska, G. Minarik, I. Riecansky; Slovakia
The effect of interaction between polymorphisms in neuronal nitric oxide synthase and dopamine transporter on sensorimotor gating in humans

3. A. Misak, M. Grman, V. Brezova, M. Chovanec, K. Ondrias; Slovakia
Hydrogen sulfide (H₂S), polysulfides and products of H₂S/S nitrosoglutathione interaction in the presence of H₂O₂ produce free radicals with impact on DNA integrity

4. M. Onyszkiewicz, M. Ufnal; Poland
Hypotensive effect of butyrate, a gut bacteria metabolite, is not mediated by nitric oxide

5. J. Radosinska, P. Balis, A. Puzserova; Slovakia
Nitric oxide production and erythrocyte deformability in animal model of primary hypertension and their age-dependent changes

6. M. Kluknavsky, P. Balis, A. Puzserova, I. Bernatova; Slovakia
Long-term effects of (-)-epicatechin in young borderline hypertensive rats

7. V. Regecova, J. Jurkovicova, J. Babjakova, M. Samohyl, I. Bernatova; Slovakia
A single dose of dark chocolate alters cardiovascular reactivity on psychoemotional stress

8. M. Majzunova, M. Malekova, P. Balis, A. Berenyiova, S. Cacanyiova, I. Dovinova; Slovakia
The redox state and antioxidant response in the kidney of young Wistar rats after chronic inhibition of nitric oxide synthase
Chairpersons II: I. Vaneckova, L. Kiss

Prolonged social isolation leads to swing in brain nitric oxide synthase activity

10. **A. Puzserova**, J. Radosinska, M. Mlynar, I. Bernatova, M. Kluknavsky, P. Balis; Slovakia
In vitro effect of uric acid on endothelial function of aged rats

11. **A. Barta**, M. Cebova, O. Pechanova; Slovakia
Proposal of the new method for orientation and processing of the blood vessels for morphometric analyses by light microscopy

Is the lack of nitric oxide, endothelial dysfunction or oxidative stress causatively involved in initiation of high blood pressure in BHR?

Hypertension is associated with elevated tissue magnetisation in young spontaneously hypertensive rats

14. **M. Kosutova**, R. Rehakova, M. Cebova, O. Pechanova; Slovakia
Effects of cholesterol-lowering drug in obese Zucker (fa/fa) rats

15. **J. Torok**, A. Zemancikova, P. Balis, I. Bernatova, A. Puzserova; Slovakia
Analysis of endothelium-dependent relaxation in pulmonary arteries of spontaneously hypertensive rats during aging

16. **I. Dovinova**, E. Hrabarova, E. Jansen, M. Barancik, M. Kvandova, M. Majzunova, A. Berenyiova, S. Cacanyiova; Slovakia/Netherlands
ADMA, homocysteine and redox status improvement affected by 7-nitroindazole in spontaneously hypertensive rats
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