

Guest Editors Introductory Words

This Supplement of the *Physiological Research* features papers introducing novel findings in the basic cardiovascular research selected from the presentations at the meeting “*New Frontiers in Basic Cardiovascular Research*”. The meeting was organized by the Institute for Heart Research, Centre of Experimental Medicine of the Slovak Academy of Sciences in collaboration with the Slovak Physiological Society and Slovak Society for Biochemistry and Molecular Biology in Bratislava, on May 25-27, 2022. The tradition of these meetings has been interrupted by COVID-19 pandemic and was renewed in 2022 when the participants finally got the opportunity to meet in person again after a relatively long period of two years. However, this gap contributed to a very special and friendly atmosphere of the meeting that traditionally brings together both basic and clinical scientists from various academic and research institutions including established keynote speakers as well as younger scientists. The main topics of the meeting involved recent findings in the research of ischemic heart disease, heart failure and molecular mechanisms of cell death including necroptosis, pyroptosis or ferroptosis. Special emphasis was given to the pathological states, such as hypertension, diabetes and

aging, in relationship with oxidative stress. Most of the papers were also focused on the mechanisms of protective interventions, such as phototherapy of jaundiced newborns and its effects on cardiovascular system, beneficial effects of antioxidants including natural compounds, as well as activation of various adaptive mechanisms in cardiovascular system of normal and pathologically altered myocardium and attenuation of the heart injury including myocardial infarction, contractile dysfunction and/or severe arrhythmias.

We would like to express many thanks to all contributors to this Supplement of *Physiological Research*, which represents an overview of the work of members of both societies. We would like to acknowledge also the reviewers who performed a great job by evaluating the submitted papers, the Editorial Board, and all people who participated in preparation of this special issue of the *Physiological Research* journal.

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