

Frontiers in CardioVascular Biomedicine (FCVB) 2022 Budapest is on in person! The excellent programme proves that scientists won against COVID-19

**Péter Ferdinandy^{1,2*}, Ákos Koller^{3,4,5,6*}, Christian Weber^{7,8,9,10},
Johann Wojta^{11,12}, and Johannes Waltenberger^{13,14,15}**

¹Cardiometabolic Research Group and MTA-SE System Pharmacology Research Group, Department of Pharmacology and Pharmacotherapy, Semmelweis University, Üllői út 26, Budapest 1085, Hungary; ²Pharmahungary Group, Szeged, Hungary; ³Department of Morphology and Physiology, Faculty of Health Sciences, Budapest 1085, Hungary; ⁴Department of Translational Medicine, Faculty of Medicine, Semmelweis University, Üllői út 26, Budapest 1085, Hungary; ⁵Res Center for Sports Physiology, Hungarian University of Sports Science, Budapest 1085, Hungary; ⁶New York Medical College, Valhalla, NY, USA; ⁷Institute for Cardiovascular Prevention (IPEK), Ludwig-Maximilians-Universität (LMU) München, Munich, Germany; ⁸German Center for Cardiovascular Research (DZHK), Partner Site Munich Heart Alliance, Munich, Germany; ⁹Munich Cluster for Systems Neurology (SyNergy), Munich, Germany; ¹⁰Department of Biochemistry, Cardiovascular Research Institute Maastricht (CARIM), Maastricht University, Maastricht, The Netherlands; ¹¹Department of Internal Medicine II, Division of Cardiology, Medical University of Vienna, Vienna, Austria; ¹²Ludwig Boltzmann Institute for Cardiovascular Research, Vienna, Austria; ¹³Chair of Cardiology and Vascular Medicine, Medical Faculty, University of Münster, Münster, Germany; ¹⁴Diagnostic and Therapeutic Heart Center, Kappelstr. 35, 8002 Zürich, Switzerland; and ¹⁵Hirslanden Klinik im Park, Seestrasse 220, 8002 Zürich, Switzerland

Online publish-ahead-of-print 19 April 2022

Frontiers in Cardiovascular Biomedicine (FCVB, previously called Frontiers in Cardiovascular Biology) is the main biennial congress of the Council on Basic Cardiovascular Science (CBCS) of the European Society of Cardiology (ESC). By now, FCVB meetings are considered as one of the most relevant exchange platforms for basic and translational cardiovascular biomedicine in Europe and beyond. The change from the previous word in the name of the congress from 'biology' to 'biomedicine' is intended to emphasize the focus of FCVB meetings to facilitate the translation of laboratory findings into clinical medicine. FCVB is a widely inclusive congress in collaboration with several scientific cardiovascular sister societies and societies world-wide.

The upcoming 6th FCVB Congress had been originally planned to be held in 2020 in Budapest, Hungary. However, after years of planning it had to be postponed due to the rapid spread of the new SARS-COV-2 virus-induced disease, COVID-19. But finally, the pandemic dramatically subsided—at least in Europe—thus the congress will take place in-person on 29 April to 1 May 2022! Yes, as they say in Broadway, the show must go on!

There was again a careful selection of a comprehensive scientific programme and as a result about 400 participants are expected to come to Budapest from all over the world, plus industry representatives and likely family members.

Again, ESC leaders and the FCVB core committee including the local organizers carefully followed and evaluated the COVID-19 situation, and because in Europe the disease substantially subsided and the safety measures are lifted, it allowed us to make this congress happen this April. The Semmelweis University premises (including the venue of the meeting, the Basic Medical Science Center) has been also opened for students, faculty and employees in 2022. Nevertheless, we are proceeding with precaution and extra hygiene conditions.

We know that these 2 years were hard on everyone and had serious impact on scientific and personal life, but perhaps that is a main reason to get together and put our personality in the meeting, renew friendship, and make new connections. Most of all for young people it is essential to move out 'from the home office' and meet each other and establish friendship which can last for a life time.

The Scientific Programme Chairs, Prof. Péter Ferdinandy and Prof. Ákos Koller, and Prof. Béla Merkely, rector of Semmelweis University, are delighted to welcome you to Budapest to the sixth edition of FCVB.

In the inaugural session, the welcome speech of the vice-rector of Semmelweis University will pay a special tribute to Ignác Semmelweis, a Hungarian physician, who discovered the cause of puerperal (childbed) fever and introduced antiseptics into medical practice. He is considered to be the father of hygiene, being the first person who introduced handwashing of doctors, which prevented the spread of puerperal disease, and the death of thousands of mothers in the late nineteenth century. Unfortunately, the hygiene became an actuality today, at the time of the devastating COVID-19 pandemic. Because he was the head of the Gynecology Clinic, later the University assumed his name: Semmelweis University, which celebrated its 250 years of anniversary in 2020, the original date of the meeting.

The aim of FCVB 2022 is to provide a very wide spectrum of presentations on novel basic science discoveries and the latest developments in new therapies related to cardiac and vascular diseases. The scientific programme has been devised in collaboration with the 14 ESC Working Groups and Sister Societies involved to cover the most exciting new findings and to facilitate the exploration of novel areas. We have a broad range of Keynote Lectures and symposia from molecular networks of the cardiovascular diseaseome, to mechanisms linking atrial fibrillation and stroke, extracellular vesicles, novel RNA therapies, network medicine

* Corresponding author. E-mail: peter.ferdinandy@pharmahungary.com (P.F.); E-mail: akos.koller@gmail.com (A.K.)

and big data, and the mechanisms of drug cardiotoxicity, including hidden cardiotoxicity. Moreover, the programme committee included a session focusing on the cardiovascular effects of COVID-19.

Pushing the frontiers even further, we have two Late Breaking Science Poster sessions covering an interesting array of novel research ideas, including new biomarkers, new risk scores and new approaches to help address unanswered questions in cardiovascular biomedicine. The CBCS is proud to support our young talent and we will have two Young Investigator Award (YIA) sessions to showcase their research, with an acknowledgement to the winners at the Awards and Closing Ceremony on the last day. A Semmelweis Best Poster Award will be given for the best young presenters as well.

The place to be for the young and senior investigators to mingle in: the Moderated Poster Sessions, providing an essential part of the meeting, where you can build your scientific and friendship network at the posters in addition to the social programmes. We not just hope but know that you will enjoy your trip to Hungary and explore the touristic and cultural treasures of Budapest! So please join us and help to make FCVB 2022 the major international congress for basic and translational cardiovascular biomedicine and to show that pandemic or other difficulties can be overcome and scientists have their share to do so!

Conflict of interest: P.F. is the founder and CEO of Pharmahungary Group, a group of R&D companies (www.pharmahungary.com).

Authors



Biography: Prof. Péter Ferdinandy is listed in the global Highly Cited Researcher 2014, 2017, 2020, and 2021 databases acknowledging the world's most influential scientists. He counts more than 300 papers and 5 patent families. His work is cited more than 18 000 times and his Hirsh index is 69. He received an MD diploma in 1991 and a PhD in 1995 at the University of Szeged, Hungary. He became a registered clinical pharmacologist in 1999. He founded the cardiovascular research group at the Biochemistry Department, University of Szeged, Hungary. He did his postdoctoral training for 2 years at the Department of Pharmacology, University of Alberta, Edmonton, Canada, as a fellow of the Medical Research Council of Canada. After his postdoctoral training, he returned back to Hungary and accomplished a MBA training received MBA diploma in finance and quality management in 2004. He founded Pharmahungary Group, a group of R&D companies (www.pharmahungary.com) that have been involved in more than 250 drug/medical device development projects since their foundation in the early 2000s. He also continued his academic carrier and became the director of the Department of Pharmacology and Pharmacotherapy and the head of the Cardiometabolic Research Group at Semmelweis University, Budapest (www.semmelweis.hu/pharmacology) in 2011, and became vice-rector for science and innovations of the Semmelweis University in 2018. Péter Ferdinandy was the president of the International Society for Heart Research, European Section, and the chair of the Working Group of Cellular Biology of the Heart of the ESC. Currently, he is the president of the Hungarian Society of Experimental and Clinical Pharmacology (www.huphar.org).



Biography: Prof. Ákos Koller has started his research work in Hungary after finishing the Semmelweis Medical School in 1975. Then, he started to work on coronary and brain microcirculation with Prof. A.G.B. Kovach. He moved from Hungary to the USA in 1982, where he was doing research at the Cerebrovascular Res Center at University of Pennsylvania, with Martin Reivich and Britton Chance on pial microcirculation, regarding the role of adenosine, NADH level/metabolism, and spreading depression. He then moved to Tucson, Arizona where he learned from Paul C. Johnson all topics of classical *in vivo* microcirculation and engaged in microcirculatory network studies to understand the complexity of microcirculation. Then in 1987, he moved to Valhalla, New York and with the help of Gabor Kaley, he became an independent scientist. He has received several NIH, AHA, and Hungarian Research grants which supported his studies on the function of microvessels of various tissues, the newly discovered vasomotor role of the endothelium *in vivo* and the effect of hemodynamic forces in acute and chronic condition on the remodelling of microvascular function *in vitro*. He was one of the first (if not the first) who discovered in 1989 the role of wall shear stress in eliciting substantial dilation of arterioles, venules and affecting the vasomotion of lymphatic microvessels. Later he investigated the modulation of the function of endothelium by age, gender, exercise, and various diseased conditions. He then working at University of Pécs, in 2011 with his colleagues discovered that increases in flow elicit constrictions in cerebral arteries contributing thereby to the autoregulation of cerebral blood flow and clarified the underlying molecular signaling. In 2018, he received the prestigious Malpighi Award from the European Society for Microcirculation. He is translating his basic research finding by contributing to clinical research and papers as well, for example to the ESC guideline on Myocardial Revascularization or Position paper of the European Society of Cardiology-working group of coronary pathophysiology and microcirculation: obesity and heart disease. In addition, he has trained many young scientists and remained their mentor after obtaining PhD degree. With his international research network, he was instrumental to connecting the microcirculatory communities of the USA, Europe, and Asia. Prof. Koller is associated with Semmelweis University, Hungarian University of Sports Science, Budapest, Hungary and with New York Medical College, Valhalla, NY, USA.



Biography: Christian Weber is the Chair in Vascular Medicine and the Director of the Institute for Cardiovascular Prevention at Ludwig-Maximilians-University (LMU) Munich, Germany, and Van de Laar-Professor at the Cardiovascular Research Institute Maastricht (CARIM), Maastricht University, The Netherlands. After graduating and completing his training in internal medicine at LMU and Harvard Medical School, Boston, he was board-certified in clinical cardiology and appointed as a Chair in Molecular Cardiology at RWTH Aachen University. His group has a strong interest in the molecular interactions and pathophysiological functions of chemokines and immune cell subsets, as well as the role of microRNAs and their targets in vascular disease and atherosclerosis, while his clinical interests focus on developing novel biomarkers and biopharmaceuticals. He is the Spokesman of the DFG Collaborative Research Centre SFB1123 and coordinates the partner site Munich Heart Alliance in the German Centre for Cardiovascular Research (DZHK). Among many awards, he is a double ERC Advanced Investigator Grant recipient and Clarivate Analytics Highly Cited Researcher 2018 with more than 600 publications, with an h-index of 100/120 and more than 37 000/53 000 citations (Scopus/GoogleScholar). He serves as Editor-in-Chief of Thrombosis & Haemostasis, Senior Associate Editor of Arteriosclerosis, Thrombosis & Vascular Biology, Chair of the ESC Council on Basic Cardiovascular Science, and is a co-founder of Carolus Therapeutics Inc. and Cartesio Therapeutics Inc.



Biography: Johann Wojta is currently heading the research lab of the Division of Cardiology at the Medical University of Vienna's Department of Internal Medicine II. In addition, he is Head of the Core Facilities at the Medical University of Vienna and Director of the Ludwig Boltzmann Institute for Cardiovascular Research. Johann Wojta obtained a PhD in Zoology at the University of Vienna in 1981 and since 1990 is an Associate Professor of Medical Physiology. His research focusses on various aspects of the pathogenesis of atherosclerosis. In particular, the main interest of his group is related to monocytes and macrophages and their respective subsets, and their contribution to the development and progression of this disease. Johann Wojta is author on 397 publications according to <https://pubmed.ncbi.nlm.nih.gov/?term=wojta+j&sort=date>. He has an h-index of 67 and his papers were cited more than 16 000 times according to <https://scholar.google.com/citations?hl=de&user=CnvsdmYAAAAJ>. He was Chair of Frontiers in Cardiovascular Biology held 2018 in Vienna. Johann Wojta serves as Associate Editor for *Cardiovascular Research*, Section Editor for Fibrinolysis for *Thrombosis and Haemostasis* and he is on the Editorial Board of *Vascular Pharmacology*. In 2020 he has been appointed Chair-elect of the ESC Council on Basic Cardiovascular Science.



Biography: Univ.-Prof. Dr med. Johannes Waltenberger, F.E.S.C. currently serves as Professor of Internal Medicine, Cardiology and Vascular Medicine at the University of Muenster since 2011. In addition, he is associated with the Diagnostic and Therapeutic Heart Center and the Hirslanden Klinik im Park in Zurich, Switzerland. Johannes Waltenberger received his medical degree from Heidelberg University following additional training in Glasgow, Harvard Medical School and Boston University School of Medicine. He received his MD (Dr med.) from Heidelberg University, was postdoc at the Ludwig Institute for Cancer Research in Uppsala and completed his residency training at the University of Ulm, where he received his *venia legendi* in Internal Medicine in 1997 and was Heisenberg Scholar of the German Research Council from 2000 to 2003. From 2003 to 2010, Dr Waltenberger served as Professor of Cardiology and Interventional Cardiology at Maastricht University Medical Center, and was Principal Investigator at the Cardiovascular Research Institute Maastricht. Dr Waltenberger was listed *primo et unico loco*, Chair in Cardiology at Karolinska Institutet/Stockholm in 2006. His scientific interests are focused on molecular mechanism related to atherosclerosis, myocardial ischaemia, and collateral function. His clinical interests cover ischaemic heart disease, heart failure, and interventional Cardiology along with ethical issues in gerontocardiology. Dr Waltenberger currently serves as honorary editor for *European Journal of Medical Research*, as associate editor of the *Netherlands Heart Journal* and on the editorial boards of *Cardiovascular Research*, *European Heart Journal* and others. He served as Councillor in the ESC-Board in 2008–2010 and is the current immediate past-chair of the *Council for Basic Cardiovascular Sciences* of the ESC. In addition, he served as topic coordinator for basic science in the *Congress Program Committee* of the ESC. Furthermore, he acts as spokesman of the project group on *Ethics in Cardiology* of the German Cardiac Society. He was a reviewer for 137 different scientific journals and for more than 70 scientific organizations. He counts more than 300 scientific publications, 2 patents and has supervised 9 PhD theses and 25 MD theses. His scientific work has been quoted more than 28.000 times and his Hirsch index is 78.