

Conference Faculty, Session Chairs, and Invited Speakers

Chairs



Ivana Vaněčková, PhD, is currently a research professor and the Head of the Department of Experimental Hypertension at the Institute of Physiology, Prague, Czech Republic. Dr. Vaněčková graduated from Charles University in 1987. She

pursued her postgraduate studies at the Institute of Physiology of the Czech Academy of Sciences, where she obtained her PhD degree. Dr. Vaněčková became a postdoctoral fellow at the renal physiology laboratory at the Institute of Physiology, Prague. In 2001 she became assistant research professor at the Department of Experimental Medicine, Institute for Clinical and Experimental Medicine, Prague, where she was Head of the Department for Experimental Hypertension. As a Senior Investigator Dr. Vaněčková continued her work at the Institute of Physiology CAS, in the Department of Experimental Hypertension where she became a research professor. She is working in endothelin research for 15 years with a special focus on the relationships of the renin-angiotensin and endothelin systems to blood pressure regulation and the role of endothelin receptor blockade in chronic kidney disease.



John Pernow, MD PhD, FESC, is a Professor and Head of the Cardiology Unit, Department of Medicine, Karolinska Institutet, Stockholm, Sweden. He is also senior consultant of cardiology at the Department of Cardiology,

Karolinska University Hospital. He is a member of the scientific council of the Swedish Heart and Lung Foundation. His research is focused on mechanisms behind and treatment targeting endothelial dysfunction with special emphasis on the role of endothelin in cardiovascular disease. John Pernow has been active in endothelin research for twenty years and published several papers regarding the pharmacology and pathophysiological role of endothelin in cardiovascular disease and complications to diabetes. An additional

research area is protection against myocardial ischemia and reperfusion injury in experimental and clinical studies. Dr. Pernow is a Fellow of the European Society of Cardiology.

Honorary Chair



Masashi Yanagisawa, MD, PhD, is Director of the International Institute for Integrative Sleep Medicine (WPI-IIIS) at the University of Tsukuba, Japan, and an Adjunct Professor of Molecular Genetics at the University of Texas Southwestern

Medical Center at Dallas. Dr. Yanagisawa discovered endothelins, their receptor and converting enzymes, and demonstrated their roles in the embryonic development. Later he also discovered the neuropeptide orexins and their receptors, molecules that regulate sleep and wakefulness. Promising therapeutic applications have emerged from both of his lines of exploratory research. Dr. Yanagisawa is a member of the US National Academy of Sciences, and member of the International Advisory Board of the International Conferences on Endothelin. He was honorary chair of the Tenth International Conference on Endothelin (ET-10) held in Bergamo, Italy, in 2007; ET-11 in Montréal, Canada, 2009; ET-12 in Cambridge, UK, 2011; ET-13 in Tokyo, Japan, 2013; ET-14 in Savannah, GA, USA, 2015; ET-15 in Prague, Czech Republic, 2017.

Chairs and Members of the International Scientific Advisory Committee



Anna Bagnato, PhD, is the Head of Preclinical Models and New Therapeutic Agents Unit at the Regina Elena National Cancer Institute of Rome, Italy. Dr. Bagnato has a long-standing interest in the identification of new targets/signaling

pathways associated to early relapse/chemoresistance, in particular in ovarian and colon carcinoma and cutaneous melanoma model, focusing on the GPCR-mediated

mechanisms. Concurrently, she led an international research program, based on preclinical observations by using endothelin-1 (ET-1) therapeutics that will lead to the introduction of novel targeted therapies in ovarian cancer management. Her research has identified the key role of the ET-1 receptor/ β -arrestin axis in the development and the progression of cancer and in the acquisition of chemoresistance. She is the author of numerous articles published in leading international journals and book chapters and has coordinated cancer research grants by public and private agencies. Her work and approach are multidisciplinary; a key skill in playing an active role in promoting translational cancer research and communicating science to the public.



Matthias Barton, MD, has been Professor of Cardiology at the University of Zürich in Switzerland since 2007. He is a graduate of Hannover Medical School, Germany, and received his clinical training in internal medicine, cardiology, and anesthesiology at Hannover Medical School and the University Hospitals in Basel, Bern, and Zürich. Dr. Barton has a particular clinical interest in preventive cardiology. For close to 30 years he has studied factors and mechanisms contributing to atherosclerosis. From 1999, he held a Swiss National Science Foundation SCORE Career Development Award studying clinical aspects of coronary artery disease. He is a Fellow of the American Heart Association and the European Society of Cardiology. Dr. Barton is Past Chair of the Twelfth International Conference on Endothelin (ET-12) held in Cambridge, UK, and member of the International Advisory Board of the International Conferences on Endothelin. He was elected to the Academy of Europe in 2017. Dr. Barton is Founder and President of the ANDREAS GRÜNTZIG Foundation, Switzerland.



Ariela Benigni, PhD, read Biological Science at the University of Milan, Italy, and PhD degree, University of Maastricht, Netherlands, with a thesis on the role of ET-1 in progressive renal injury. She is currently the Head of Department of Molecular Medicine and Scientific Secretary of Mario Negri Institute for Pharmacological Research in Bergamo, Italy. Her recent work has looked at therapies to halt renal disease progression or even induce regression of kidney

lesions by multidrug approach, including ET receptor antagonists, with the interest to characterize cellular determinants of kidney repair. Dr. Benigni has contributed to more than 280 research publications. Dr. Benigni acted as Associate Editor for many nephrological journals and is currently the Editor-in-Chief of *Nephron*. She was consultant of WHO for a study on angiogenic factors in Pre-eclampsia, for which she was appointed as Senior Fellow by the University of Oxford, Nuffield Department of Obstetrics & Gynaecology. She was the Chairman of the 10th International Conference on Endothelin (ET-10, Bergamo, 2007). She took part of Visiting Committee of Scientists of the Hôpital Necker in Paris. She is currently member of the ASN Innovation and Discovery Task Force.



Carmine Cardillo, MD, is a professor of Internal Medicine and chief of the Vascular Physiology Laboratory at the Catholic University Medical School in Rome, Italy. He received his MD and his fellowship in Internal Medicine from the Catholic University. He also served for almost 4 years as a Visiting Scientist at the Cardiology Branch, NHLBI, of the National Institutes of Health in Bethesda, MD, USA. In addition to practicing and teaching, Dr. Cardillo has been involved for long time in research on the mechanisms of vascular dysfunction in patients with risk factors for cardiovascular disease. In particular, he has studied changes in the main endothelial homeostatic mechanisms, including the nitric oxide pathway and the endothelin system, in hypertension, diabetes and hypercholesterolemia. He has also investigated the determinants of impaired vasoactive properties of insulin in conditions like obesity and the metabolic syndrome. He has authored more than one hundred peer-reviewed articles on these topics.



Věra Čertíková Chábová, MD, PhD, is an associate professor of internal medicine, 1st Faculty of Medicine, Charles University, Prague, Czech Republic. She is also a consultant in the Department of Nephrology, General Faculty Hospital, Prague. She also cooperates with the Center of Experimental Medicine, Institute for Clinical and Experimental Medicine, Prague. She is a member of The Czech Society of Nephrology, ERA-EDTA and ISN. Her

main focus is clinical teaching, the main area of clinical work is hypertension, interstitial and tubular diseases, and mineral disorders. Her research area is experimental hypertension and target organ damage. She is interested in new ways of kidney protection, among them the suppression of the endothelin pathway. She has published papers in both clinical and experimental area.



Martine Clozel, MD, a pediatrician specializing in neonatal intensive care, has an MD degree from Nancy University, France, and received further training in physiology and pharmacology from McGill University, Montréal, Canada, and the University of California, San Francisco, CA, USA. During her 11 years at F. Hoffmann-La Roche Ltd, she initiated the research project on endothelin and endothelin receptor antagonists which led to the discovery and clinical development of bosentan (Tracleer[®]), tezosentan, clazosentan and other molecules. She has published over 140 peer-reviewed papers in the fields of endothelial function, endothelin and endothelin receptor antagonists. In 1997 she was awarded the Hoffmann-La Roche Research Prize for her achievements in the field of endothelin research. In 2008, she was honored as “Chevalier dans l’Ordre de la Légion d’Honneur”. In 2015, she was awarded the Tomoh Masaki Award for her contribution to endothelin science and successfully discovering several endothelin receptor antagonists, especially Tracleer[®] (bosentan) and Opsumit[®] (macitentan), two molecules that each made history in the field of pulmonary arterial hypertension. In 1997 Martine co-founded Actelion Pharmaceuticals Ltd, where she was Senior Vice President, Chief Scientific Officer and Head of Drug Discovery, Pharmacology & Preclinical Development. Martine was also a member of the Extended Actelion Executive Committee. With the sale of Actelion to Johnson & Johnson in June 2017, the drug discovery and early clinical pipeline business was demerged and Idorsia was established. Idorsia, a new biopharmaceutical company, is specialized in the discovery and development of small molecules to provide innovative therapeutic options. Martine retains her role as Chief Scientific Officer.

Anthony Davenport, PhD, directs the Human Receptor Research Group in Experimental Medicine and Immunotherapeutics, University of Cambridge, UK, focusing on understanding the role of G-protein coupled



receptors in the human cardiovascular system and how these are altered with disease. The pharmacology of endothelin in humans has been a major research interest since the discovery of the peptide. These include quantifying and imaging endothelin receptors in normal and diseased human tissue with sub-type selective radioligands and antisera, as well as positron emission tomography to non-invasively image endothelin receptors *in vivo*. With colleagues, he has updated the *Pharmacological Review* on endothelin in 2016. Research has been extended to the apelin signalling pathway leading to the discovery of apelin receptor agonists biased toward G-protein over β -arrestin, that display reduced internalization resulting in no desensitization of the apelin receptor in clinical studies. He is a member of the International Advisory Board of the International Conferences on Endothelin and was co-chair of the Twelfth International Conference (ET-12) held in Cambridge, UK, in 2011, an executive committee member of the International Union of Basic and Clinical Pharmacology Committee on Receptor Nomenclature and Drug Classification that is responsible for the databases guidetopharmacology.org, guidetoimmunopharmacology.org and a contributor to the *Concise Guide to Pharmacology*.



Pedro D'Orléans-Juste, PhD, is a Professor of Pharmacology (1990-present) at Sherbrooke University Medical School, Quebec, Canada. He initiated his research endeavors on endothelins in 1988, as a post-doctoral fellow (supervisor, Sir John Vane, William Harvey Research Institute). Trained in cardiovascular pharmacology during his graduate studies, Dr. D'Orléans-Juste was involved in the early report on the nicardipine insensitive-vascular properties of endothelins, in the conversion of big-endothelin-1 to endothelin-1 *in vivo* and more recently in the first report on the pivotal contribution of chymase in the production of endothelin-1 *in vivo*. Dr. D'Orléans-Juste, among the 100 most cited pharmacologists worldwide, lists 278 publications and currently supervises six MSc and PhD students on a CIHR-funded program on the role of mast cell proteases in the genesis of endothelin-1. Dr. D'Orléans-Juste is a former Chair of the Sixth International Conference on Endothelin (ET-6) and the Eleventh International Conference on Endothelin

(ET-11), both held in Montréal in 1999 and 2009, respectively, and is a founder-member of the Endothelin International Advisory Board.



Neeraj Dhaun, PhD, MBChB, (to most as ‘**Bean**’) is a clinical and academic nephrologist in Edinburgh, Scotland, UK. His clinical interests are immune-mediated renal disease especially vasculitis and high-risk renal transplantation. He runs the

South-East Scotland Vasculitis & Lupus Clinic. His research group focuses on the cardiovascular risk associated with the spectrum of chronic kidney disease (CKD) from early in the disease trajectory through to end-stage renal failure requiring dialysis or kidney transplantation. They perform pre-clinical and clinical pharmacology studies as well as investigating cardiovascular risk at a population level. Their goals are to identify cardiovascular risk early in patients with CKD and, through experimental medicine studies, to explore novel therapies that might reduce this risk and so potentially improve longer-term patient outcomes. They were amongst the first to define the clinical potential of endothelin receptor antagonists in CKD and their proof-of-concept studies have informed a number of large phase II studies in the area.



Noriaki Emoto, MD, PhD, is a Professor at the Department of Internal Medicine at Kobe University Graduate School of Medicine and at Kobe Pharmaceutical University, Japan. After his residency as a cardiologist in Kobe University

Hospital, he conducted his graduate studies and postdoctoral fellowship under the supervision of Dr. Masashi Yanagisawa in Dallas, Texas, USA. He won the Louis N. Katz Basic Science Research Prizes of the American Heart Association in 1994 for the molecular identification and characterization of endothelin-converting enzymes, ECE-1 and ECE-2. He moved back to Kobe, where he leads his own laboratory as a physician-scientist. His group is staffed by three medical associate professors, two postdoctoral fellows and medical PhD students from various countries. He is in charge of the pulmonary hypertension program in Kobe University Hospital. His major research interest is the translational research of endothelin. Noriaki Emoto was the Chair of the Thirteenth International Conference

on Endothelin (ET-13) held in Tokyo in 2013.



Advije Ergul, MD, PhD, FAHA, is a Regents’ Professor in the Department of Physiology at Augusta University and Research Career Scientist in the Charlie Norwood Veterans Affairs Medical Center in Augusta, GA, USA. She received her

MD degree from the Cerrahpasa School of Medicine at University of Istanbul and her PhD degree in Biochemistry and Molecular Biology from the University of Miami School of Medicine on a project related to endothelin-1 (ET-1) structure and function. Since then she has been interested in the physiology/pathophysiology of the ET system. She made the seminal observation that plasma ET-1 concentrations are much higher in African-American hypertensives, which contributed significantly to our understanding of the ET system in salt-sensitive hypertension. She built a strong research career on the roles of ET and its receptors in diabetes-associated complications including stroke and cognitive impairment. She has published more than 160 scientific papers and her research has been continuously supported by the American Heart Association, American Diabetes Association, National Institutes of Health and Veterans Administration. Dr. Ergul is a Fellow of the American Heart Association.



Anil Gulati, MD, PhD, is Professor and Associate Dean at the Midwestern University, Illinois, USA. He is a consultant to Advocate Lutheran General Children’s Hospital and is Adjunct Professor of Bio-engineering and Biopharmaceutical

Sciences at University of Illinois at Chicago. Dr. Gulati is the Scientific Reviewer, United States Defense Medical Research and Development Program, Combat Casualty Care Research Program 2016 and 2017. He is recipient of Outstanding Faculty Award 2017, Paul R. Dawson Biotechnology Award 2014 and Littlejohn Award 2014. Dr. Gulati is a United States Fulbright Scholar 2008-2009 and winner of International Ranbaxy Research Award 2007. He has 42 issued patents of which 20 has been issued by the US patent office, and rest by patent offices in Europe, India, China, Japan, Australia and Canada. Some of the discoveries related to endothelin made by him are undergoing clinical phase II trials in the United States and clinical phase III trials in India. Dr. Gulati is

founder and chairman of Pharmazz, Inc. and Pharmazz India Private Limited which is engaged in developing his inventions for critical care medicine, resuscitation of shock, stroke and complication of diabetes. He is an elected Fellow of American College of Clinical Pharmacology and was Co-Chair of the ET-14: World Endothelin Conference 2015, Savannah, Georgia, USA.



Pavel Jansa, MD, PhD, was educated at the Charles University in Prague, Czech Republic, First Faculty of Medicine (1996). He specialized in internal medicine in 1999 and cardiology in 2005. He is Chief of the Center for Pulmonary Hypertension at the Department of Cardiology and Angiology, General University Hospital in Prague, and Associate Professor at the First Faculty of Medicine, Charles University, Prague. Dr. Jansa is Chairman of the Working Group on Pulmonary Circulation of the Czech Society of Cardiology. His research interests include epidemiology of pulmonary arterial hypertension, coagulation disorders in pulmonary hypertension, and small-vessel disease in chronic thromboembolic pulmonary hypertension. He has served as the principal investigator and steering committee member of pulmonary hypertension clinical trials. He is the main author of the Czech National Guidelines for Diagnosis and Treatment of Pulmonary Hypertension.



Donald E. Kohan, MD, PhD, is Professor of Medicine and Pharmaceutical Chemistry at the University of Utah Health Sciences Center in Salt Lake City, UT, USA. His research for three decades has focused on kidney regulation of blood pressure and salt balance. He is specifically interested in the role nephron-derived autocrine and paracrine factors, including endothelins, nitric oxide, prorenin and other factors in the control of renal sodium and water transport and blood pressure. His lab has developed multiple renal cell-specific transgenic and gene-targeted mouse models. He is involved in clinical studies using endothelin receptor antagonists to treat patients with chronic kidney disease. Dr. Kohan is Past Chair of the 9th International Conference on Endothelin (ET-9), held in 2005 in Park City, UT, USA. Dr. Kohan is a member of the International Advisory Board of the International Conferences on Endothelin.



Radko Komers, MD, PhD. After clinical and research training in internal medicine, diabetology and nephrology, Dr. Komers spend more 20 years in different academic position in Czech and U.S. institutions combining clinical work and research exploring the pathophysiology of progressive kidney disease, with an emphasis on diabetic nephropathy and proteinuric glomerular diseases. He focused on pathophysiological roles of the selected mediators and signaling pathways that control renal hemodynamics, fibrogenesis and inflammation and represent targets for development of new drugs capable of slowing down the progression of chronic kidney diseases. He published more than 60 papers and multiple textbook chapters in this field. After joining Retrophin, Inc., San Diego, USA, as a Medical Director of Nephrology, Dr. Komers continues to be active in clinical and translational research and drug development focusing on rare glomerular diseases with a special interest in antiproteinuric and nephroprotective potential of endothelin receptor inhibition.



Marilena Loizidou, PhD, is Professor of Cancer Nanotechnology and Deputy Director of the Division of Surgery and Interventional Science (SIS) at UCL, London, UK. Marilena is also Head of the SIS Department at the Royal Free Campus. She graduated in Biochemistry from McMasters University, Canada, and was awarded first an MSc in Biochemical Pharmacology followed by a PhD in Solid Tumour Biology from the University of Southampton, UK. She became lead clinical scientist at the University of Southampton/NHS and then moved to UCL in 1993 to the academic department of Surgery, and became Head of Department in 2013. Marilena Loizidou's research focuses on targeting cancer, using two approaches: manufacturing tumouroids (tissue engineered 3D *in vitro* models of cancer) from patient derived cells to determine responses to specific treatments; and incorporating nanoparticles with existing anti-cancer agents to refine and improve targeting of the disease. She is co-Founder and Director of the MSc in Nanotechnology and Regenerative Medicine and the MSc in Surgical and Interventional Sciences.



Janet Maguire, PhD, is a Senior Research Associate in the division of Experimental Medicine and Immunotherapeutics (EMIT), University of Cambridge and a Fellow of Queens' College, Cambridge, UK.

She is a member of the BHF Receptor

Research Group whose focus is the pharmacology of established and novel G-protein coupled receptors in the human cardiovascular system and who have particular expertise in the endothelin peptides and their receptors. Dr. Maguire has co-authored seventy peer reviewed papers, eight book chapters and twenty four reviews, and is Editor and contributor of a volume, 'Peptide Research Protocols: Endothelin' for Humana Press. She is also involved in undergraduate and graduate teaching in pharmacology, supervising pre-clinical medical and veterinary students, is a Wellcome Trust/MRC 4-year PhD program Principal Investigator and a member of the International Union of Pharmacology Receptor Nomenclature Sub-Committee on Endothelin Receptors.



David M. Pollock, PhD, earned his PhD degree in Physiology from the University of Cincinnati, USA, in 1983. He completed a post-doctoral fellowship at the University of North Carolina at Chapel Hill. He then spent two years as a Senior Scientist

at the Institute for Circadian Physiology at Harvard University in Boston before taking a position in the Drug Discovery Division of Abbott Laboratories in Chicago. In 1995, he accepted a faculty position in Vascular Biology Center at the Medical College of Georgia (now known as Georgia Regents University) where he has risen to the rank of Regents' Professor. In 2014, he became the James A. Schafer NRTC Endowed Professor and Director of the Cardio-Renal Physiology and Medicine section in the Division of Nephrology at the University of Alabama at Birmingham. Dr. Pollock is a Fellow of the American Heart Association and the American Society of Nephrology and currently serves as Editor-in-Chief of Comprehensive Physiology. He is also a founding member of the International Advisory Board on Endothelin who organize the bi-annual International Conferences on Endothelin. Dr. Pollock's research is related to the control of sodium excretion and the role of the kidney in blood pressure regulation focusing on the actions of endothelin. Most recently, his work has expanded into circadian control of renal function and

blood pressure as well as mechanisms of endothelin action in sickle cell disease. His research has been supported for many years by several grants from the National Heart Lung and Blood Institute and the American Heart Association.



Jennifer S. Pollock, PhD, was trained as a protein biochemist with Dr. Richard Hiskey at UNC-Chapel Hill in the Department of Chemistry. She completed postdoctoral training with Dr. Ferid Murad, 1998 Nobel Laureate, first describing the puri-

fication and characterization of NO synthase isoforms and the significance of NO in the endothelium. Dr. Pollock's academic career began at the Medical College of Georgia in 1995 after 4 years as a Senior Scientist in Drug Discovery at Abbott Laboratories. In January 2014, she relocated to the University of Alabama at Birmingham where she is a Professor and Endowed Scholar in the Nephrology Division of the Department of Medicine. She was selected as the 2015 American Physiological Society Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Awardee. She has been or is a mentor to over 100 undergraduate, medical, and graduate students as well as fellows and junior faculty. Dr. Pollock has held NIH funding since 1997 with her major focus on the nitric oxide and endothelin systems in vascular and renal physiology.



Laura Rosanò, PhD, is a group leader in the Preclinical Models and New Therapeutic Agents Unit, Regina Elena National Cancer Institute of Rome, Italy. She has been involved in investigating the role of

the endothelin axis in tumorigenesis and progression in different human cancer and in pre-clinical studies of new therapeutics against endothelin receptor. She has contributed to more than 70 publications on leading international journals in the field of cancer research and the relevance of these studies are evident on hundreds of citations. For the quality of her research, she was a recipient of Award of Fondazione Guido Berlucchi (2005) for "Best young researcher in oncology". The main topic of her research group is to investigate the role of endothelin receptors and β -arrestin in invadopodia and metastatic behavior of serous ovarian cancer.



Pierre-Louis Tharaux is Research Professor at the INSERM (French National Institute for Health and Medical Research) Paris Cardiovascular Centre, and appointed by the Renal Division of the Georges Pompidou European Hospital, Paris Descartes University, France. Research in his laboratory involves analysis of mouse vascular and renal pathophysiology with translation to clinical studies, with a particular emphasis on genes or pathways implicated in disease tolerance. His work covers GPCRs and receptor tyrosine kinases signaling and metabolism in kidney and vascular cells in vasculitides, hypertensive and metabolic microvascular diseases; the involvement of neutrophils and endothelial cells in sickle cell vasculopathy; and drug repositioning and new drug development for glomerular diseases, microvascular auto-immune diseases, sickle cell disease and focal segmental glomerulosclerosis.



Vladimír Tesař, MD, PhD, MBA, FERA, FASN, Head of the Department of Nephrology, 1st Faculty of Medicine at Charles University, Prague, Czech Republic. Member of the Scientific Advisory Board of ERA-EDTA (2010-2014), member of the Council of ERA-EDTA (2011-2014), now a Chair

of the Immuno-nephrology Working Group, ERA, and a President of the International Society of Blood Purification (2014-2017). Substantial part of his publications deals with diagnosis and treatment of glomerulonephritis (mainly ANCA-positive vasculitis and lupus nephritis), renal and renovascular hypertension, autosomal dominant polycystic kidney disease (and other genetic diseases of the kidney) and cardiovascular complications of renal failure. He is the author or co-author of more than 360 publications, including *New England Journal of Medicine*, *Lancet*, *Journal of the American Medical Association*, *Annals of Internal Medicine*, *Nephrology*, *Dialysis, Transplantation*, *American Journal of Kidney Diseases*, *Kidney International*, *Rheumatology*, *Blood Purification*, *Kidney and Blood Pressure Research*, *Journal of Nephrology*, *Annals of Rheumatic Diseases*, *Journal of Hypertension*, etc.

Rita C. Tostes, PhD, is currently a Professor at the Ribeirão Preto Medical School, University of São Paulo, Brazil. She is a member of the Brazilian Academy of Sciences (ABC), a researcher fellow at the National



Council for Scientific and Technological Development (CNPq) and a member of the Foundation for Research Support of the State of São Paulo (FAPESP). She holds the degrees of BSc in Pharmacy, MSc and PhD in Biological Sciences (Pharmacology) from the University of São Paulo and internships at the Albert Einstein College of Medicine, NY, USA, University of Montréal, Canada, and Georgia Regents University, Medical College of Georgia, GA, USA. Her scientific interests are directed to signaling pathways that drive vascular dysfunction in cardiovascular and metabolic diseases (hypertension, diabetes and obesity) and how endothelin, aldosterone and the immune system contribute to vascular injury in these diseases.



David J. Webb, MD, DSc, FRCP, FRSE, FMedSci is Professor of Therapeutics and Clinical Pharmacology, and Hypertension and Research Theme (HART) lead in the BHF Centre of Research Excellence (CoRE) at the University of Edinburgh,

UK, where he established its Centre for Cardiovascular Science. He also runs Edinburgh's ESH Hypertension Excellence Centre. His translational research focuses on endothelial function and arterial stiffness, and on the investigation and effective treatment of patients with complex hypertension and chronic kidney disease. He is a Fellow of the Royal Society of Edinburgh and UK's Academy of Medical Sciences, and was awarded the SKB Silver and Lilly Gold Medals from the British Pharmacological Society, and recently held its Presidency. He is chair of IUPHAR's Clinical Division and future President of the IUPHAR's 2022 World Congress of Pharmacology to be held in Glasgow.



Hiromi Yanagisawa, MD, PhD, is Professor at the Life Science Center, Tsukuba Advanced Research Alliance, University of Tsukuba, Japan, since 2015. Prior to this position, she was a tenured associated professor at the University

of Texas Southwestern Medical Center in Dallas, Texas, USA. In Dr. Yanagisawa's earlier career, she established the dual role of endothelin converting enzyme-1 in endothelin processing and its critical role in neural crest

development, particularly in pharyngeal arch artery development. She then went on to work on the molecular mechanism of vessel wall development, focusing on the role of extracellular matrix proteins. Her current research interest is the elucidation of the molecular mechanism of mechanosensing and its contribution to arterial diseases.



Josef Zicha, MD, DSc., has graduated at Charles University in Prague, Faculty of Pediatric Medicine, Czech Republic. Since 1974 his main research topic was the age-dependent susceptibility of rats to salt hypertension. Actually

Dr. Zicha is a senior investigator at Department of Experimental Hypertension, Institute of Physiology CAS, Prague. Last years were devoted to the research of altered balance of vasoactive systems in various forms of experimental hypertension with a special respect to sympathetic hyperactivity, attenuated vasodilation due to the interaction of oxygen free radicals with nitric oxide as well as the role of enhanced calcium influx and altered calcium sensitization in experimental hypertension. He is also Managing Editor of *Physiological Research* since 1991. He was a member of the Scientific Council of International Society of Hypertension (2002-2010).

Invited lectures



Rajat Gupta, MD, is a cardiologist at Massachusetts General Hospital and Harvard Medical School in Boston, MA, USA. He has recently identified the distal regulatory effect of a single variant associated with 5 vascular diseases on endothelin-1 expression (Gupta *et al. Cell* 2017). This work establishes that high ET-1 is associated with increased risk of coronary artery disease and conversely with decreased risk of migraine headache, arterial dissection, fibromuscular dysplasia, and hypertension. The Gupta Lab is interested in further defining the protective effects of ET-1 and the epigenetic regulation of EDN1 expression.

Ernesto L. Schiffrin, C.M., MD, PhD, FRSC, FRCPC, FACP, FAHA, is Physician-in-Chief of the Jewish General Hospital and holds a Tier 1 Canada Research Chair in Hypertension and Vascular Research. He is Professor and Vice-Chair (Research), Department



of Medicine, McGill University, Montréal, Canada. Dr. Schiffrin's research deals with mechanisms and treatment of high blood pressure, from molecules and cells to humans. He is author of more than 560 peer-reviewed publications, many book

chapters and is editor of 4 published books on molecular and clinical aspects of vascular disease and hypertension. Dr. Schiffrin has been President of the Canadian Hypertension Society (1991-1992), Chair of the High Blood Pressure Research Council of the American Heart Association (2002-2004), President of the InterAmerican Society of Hypertension (2005-2007) and President of the Quebec Hypertension Society (2009-2011). Dr. Schiffrin has been Vice-President (2010-2012) and later President of the International Society of Hypertension (2012-2014), and President of Hypertension Canada (2013-2016). Dr. Schiffrin was Associate Editor of *Hypertension* (AHA journal) from 2003 to the end of 2015. Since 2016 he is Editor-in Chief of the *American Journal of Hypertension*. Dr. Schiffrin received the Senior Investigator Award of the Canadian Society of Internal Medicine in 2003 and the Distinguished Service Award of the Canadian Hypertension Society in 2004. He was elected Fellow of the Royal Society of Canada in 2006, and received the 2007 Irvine Page-Alva Bradley Lifetime Achievement Award of the High Blood Pressure Research Council of the American Heart Association and the 2010 Bjorn Folkow Award of the European Society of Hypertension. He was appointed Member of the Order of Canada (C.M.) in July 2010. Among other distinctions, he has been awarded the 2011 Excellence Award in Hypertension Research of the American Heart Association, the 2013 Robert Tigerstedt Distinguished Scientist Award of the American Society of Hypertension, the 2013 Distinguished Scientist Award of the Canadian Cardiovascular Society, the 2015 Distinguished Scientist Award of the Canadian Society of Clinical Investigation, the 2016 Margolese National Prize on Heart Disorders and the 2017 Galien Research Prize Canada.



Eddie Weitzberg. Dr. Weitzberg's early research was focused on the role of endothelium-derived substances (endothelin and nitric oxide, NO) in cardiovascular and pulmonary function during septic shock. Later work focused on the discovery of NO in

exhaled air and the development of a clinical tool for diagnosis and monitoring of asthma. Dr. Weitzberg and collaborators discovered an alternative pathway for NO generation, *via* the serial reduction of the inorganic anions nitrate and nitrite and the relevance of this pathway for cardiovascular and metabolic function. Human studies reveal that dietary nitrate lowers blood pressure, improves skeletal muscle mitochondrial function and reduces oxygen cost during physical

activity, improves endothelial function and stimulates release of circulating angiogenic cells. The importance of the oral microbiome for a functional nitrate-nitrite-NO pathway is currently a main focus together with investigations on nitrate in our diet as an important nutrient with beneficial cardiovascular and metabolic effects. Interventional trials in healthy humans and patients are paralleled by mechanistic animal experiments.