



American Heart Association®

Hypertension

Hypertension Scientific Sessions 2020

Sponsored by

**The Council on Hypertension
and the Council on The Kidney
in Cardiovascular Disease**

■ EXCELLENCE AWARD FOR HYPERTENSION RESEARCH



Giuseppe Mancia, MD, PhD

White Coat Hypertension: Pathophysiological and Clinical Aspects

Dr. Mancia is professor emeritus at the University Bicocca and served 20 years as Chairman of the Department of Internal Medicine of the Milano and Milano-Bicocca University at the San Gerardo Hospital in Monza.

He is currently Chairman of the European Society of Hypertension (ESH) Foundation and the Hypertension Center, Policlinico di Monza and served 20 years as Chairman of the Organizing Committee of ESH meetings.

He is a past President of the International Society of Hypertension (ISH), European Society of Clinical Investigation, and Italian Society of Hypertension. He has been Chairman of the European Society of Cardiology (ESC) Working Group on Hypertension and the Heart and chaired the ESH/ESC Hypertension Guidelines Task Force in 2003, 2007, 2009, 2013 and 2018.

Dr. Mancia is an honorary member of several hypertension and cardiovascular societies and has received, for his scientific activity, many international awards, and degrees Honoris Causa. He is the Editor of the Journal of Hypertension.

Professor Mancia's research focuses on several basic and clinical aspects of hypertension and cardiovascular disease. He has published more than 2000 articles in peer-reviewed Journals. His articles have received more than 200,000 citations (Microsoft Academics), for which he is listed as a highly cited scientist.

■ ARTHUR C. CORCORAN MEMORIAL LECTURE



John S. Floras, MD, DPhil, FRCPC, FAHA

From Brain to Blood Vessel: Insights from Muscle Sympathetic Nerve Recordings

Dr. Floras, a consultant cardiologist, is Professor of Medicine at the University of Toronto and Mount Sinai Hospital's Deputy Physician-in-Chief for Research. From 2004 to 2018, he was the Canada Research Chair in Integrative Cardiovascular Biology.

Following Rhodes Scholarship-supported doctoral research at Oxford and post-doctoral training at the University of Iowa, he established, in 1985, the first microneurographic-

cardiovascular laboratory in Canada. For over four decades, he has investigated human cardiovascular control mechanisms and their modulation in health and disease, with emphasis on the autonomic nervous system in hypertension, heart failure, sleep-related breathing disorders, and ageing.

Funded continuously by government and charitable agencies, his discoveries appear in well over 200 original, highly cited, publications. With T. Douglas Bradley, he co-edited 'Sleep Apnea: Implications for Cardiovascular and Cerebrovascular Disease' the first text specific to this topic.

In recognition, he has received Canada's Royal College of Physicians and Surgeons' Medical in Medicine, the International Society of Hypertension Pfizer Award Fellowship, and Hypertension Canada's Senior Investigator Award, and been elected to the Canadian Academy of Health Sciences. He has delivered the Institute of Circulatory and Respiratory Health Distinguished Lecture in Cardiovascular Sciences and the Canadian Cardiovascular Society Research Achievement Award Lecture and is the 2020/2021 Carl Ludwig Distinguished Lecturer of the American Physiological Society.

Dr. Floras has served as Head of Mount Sinai Hospital's Division of Cardiology, President of the Canadian Hypertension Society, and Chair of The Banting Research Foundation, Canada's oldest medical granting agency, which now focuses on supporting early-career medical researchers.

■ LEWIS K. DAHL MEMORIAL LECTURE



Jennifer S. Pollock, PhD, FAHA, FAPS

NO News is Good News

Dr. Pollock is an Endowed Professor of Nephrology in the Department of Medicine, Division of Nephrology, and Co-Director of Cardio-Renal Physiology & Medicine Section at the University of Alabama at Birmingham.

Hypertension research has been and is the focus of Dr. Pollock's 25+-year scientific career. She completed her PhD studies in 1987 and postdoctoral studies with Dr. Ferid Murad in 1992 with the first descriptions of NO synthase (NOS) that has formed the basis

for her continuing studies on the regulation of NO. Her laboratory demonstrated that an alternative splice variant of the NOS1 isoform, NOS1b, is exclusively expressed in the collecting duct and is necessary for maintaining Na⁺ homeostasis through regulation of electrolyte transport and blood pressure.

Dr. Pollock served on peer review committees for the NIH and AHA for the past 20+ years. Previously, Dr. Pollock was selected as an AHA Established Investigator Awardee. She was honored as the 2015 American Physiological Society Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Awardee and selected as the 2016 UAB School of Medicine Dean's Excellence Award in Mentorship. Dr. Pollock is privileged to have mentored over 100 undergraduate, medical, and graduate students as well as fellows and junior faculty. Dr. Pollock received the 2016 AHA Council for Hypertension Harriet Dustan Award for outstanding contributions to the field of hypertension and the 2019 APS Starling Distinguished Lecture and Award in Excellence of Water and Electrolyte Homeostasis Research.

■ HARRIET DUSTAN AWARD AND LECTURE



Stephanie W. Watts, PhD, FAHA

Chemerin: A Connection between Obesity and Hypertension

Dr. Watts revels in the laboratory, having been active in a lab since she was 12. She graduated with a BS in Chemistry from the University of Illinois, and then earned a PhD in Pharmacology and Toxicology at Indiana University/Purdue University at Indianapolis. After a postdoctoral fellowship at The University of Michigan, she came to Michigan State University in 1995. This year marks 25 years at MSU, serving as a Full Professor since 2005.

Dr. Watts has trained ~100 individuals and has had the fortune of learning from every single trainee. These individuals have enabled her to make a scientific career. This includes publishing ~190 papers; being an Established Investigator and a Transformational Project Awardee of the AHA; being a member of Program Project Grants; PI of RO1s, and to work with multiple pharmaceutical companies.

Dr. Watts helped launch the Council on Hypertension's Trainee Advocacy Committee, co-chaired Hypertension Summer School, and has been on Leadership and Program committees. Her dedication to career development is evidenced by the fact she served as PI of an NIH BEST program at MSU and was Assistant Graduate Dean in charge of RCR education, being named a National Research Exemplar by the Exemplar Project.

Her science has revolved around the vasculature and has added to our understanding to the importance of serotonin (5-HT), perivascular adipose tissue (PVAT) and chemerin in the (dys) function that is observed in hypertension. Her work has been recognized with the Bowditch and Berne Awards of APS, and the Lewis K. Dahl Memorial Lecture. Throughout, she has been wonderfully supported by her father Robert, brother Adam, husband Ned, and sons Tony and Alex.

■ DONALD SELDIN LECTURE



Susan M. Wall, MD, FAHA

Regulation of Blood Pressure by Renal Intercalated Cells

Dr. Wall is a Nephrologist and Professor of Medicine at Emory University. Dr. Wall and her collaborators study blood pressure regulation by renal intercalated cells, a minority cell type in kidney, and the role of the Cl⁻/HCO₃⁻ exchanger, pendrin, in this response.

Prior to Dr. Wall's work, intercalated cells were thought to function primarily in the regulation of acid-base balance by mediating the secretion of H⁺ or OH⁻ equivalents upon demand. While

they observed a role of pendrin-mediated HCO₃⁻ secretion in acid-base balance, they made the more interesting observation that pendrin participates in the renal regulation of blood pressure, particularly the pressor responses to aldosterone and angiotensin II. They observed that aldosterone increases blood pressure, in part, from aldosterone-induced stimulation of pendrin-mediated Cl⁻ absorption. Moreover, by stimulating pendrin, epithelial Na⁺ channel (ENaC) activity and abundance secondarily increases. Their observations regarding blood pressure regulation by pendrin has prompted great interest by a number of investigators, including studies in humans with inactivating sequence variants of the gene encoding pendrin, which have largely recapitulated their observations in mouse models.

The Wall Laboratory has gone on to study the signaling mechanism by which aldosterone and angiotensin II regulate intercalated cell transporter abundance, distribution, and function. Most recently, they observed that the mineralocorticoid receptor modulates salt balance, in part, by directly regulating pendrin within intercalated cells. The intercalated cell MR then secondarily regulates the epithelial Na⁺ channel, ENaC.

■ COUNCIL ON HYPERTENSION MID-CAREER AWARD FOR RESEARCH EXCELLENCE



Adam C. Straub, PhD

Heme Redox Cycling and Blood Pressure Control

Dr. Straub is an Associate Professor of Pharmacology and Chemical Biology and Director of the Center for Microvascular Research in the Heart, Lung, Blood and Vascular Medicine Institute at the University of Pittsburgh School of Medicine. He received his bachelor's degree from Allegheny College and his PhD from the University of Pittsburgh Graduate School of Public Health.

Dr. Straub's research focuses on understanding the basic mechanisms of redox signaling and

blood pressure control. His efforts specifically concentrate on heme iron redox control, a critical process that modulates resistance artery tone. He discovered that microvascular endothelial cells express hemoglobin alpha and showed that hemoglobin iron redox cycling governs nitric oxide bioavailability to control vascular tone (Straub et al 2012, *Nature*). Recently, his lab uncovered that cytochrome b5 reductase 3 (CYB5R3) regulates the heme iron redox state of soluble guanylate cyclase, the nitric oxide receptor (Rahaman et al *Circulation Research*, 2017, Durgin et al, *JCI Insight*, 2019). Through preliminary investigations, Dr. Straub's group is finding that CYB5R3 expression and activity is critical for blood pressure regulation and may be a contributing factor to hypertension.

He has published more than 55 publications and has been supported by extramural research funds including an EPA STAR fellowship, NIH F32 fellowship, NIH K99/R00 Pathway to Independence Award, multiple NIH R01's, AHA Established Investigator Award, and industry funded grants. He actively serves on the AHA blood pressure study section and has chaired several scientific sessions at various meetings. He has been recognized by the AHA for his research accomplishments by being selected as finalist for the Irvine H. Page Young Investigator Research Award, the Outstanding Early Career Investigator Award and was the 2017 recipient of the Harry Goldblatt for Early Career Investigators.

■ HARRY GOLDBLATT AWARD FOR EARLY CAREER INVESTIGATORS



Annet Kirabo, DVM, MSc, PhD, FAHA

Immune Mechanisms of Dietary Salt-Induced Hypertension and Kidney Disease: A role of Oxidative Lipid Protein-Modifications

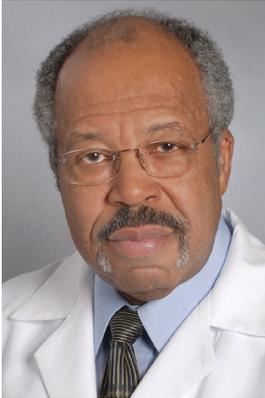
Dr. Kirabo obtained a Doctor of Veterinary Medicine at Makerere University, Uganda. She subsequently travelled to the USA and after receiving a MSc in Cell and Molecular Biology at St. Cloud University, MN, she joined a PhD program at the University of Florida where she studied Jak2-Angiotensin II interactions in cardiovascular disease.

Dr. Kirabo completed her post-doctoral fellowship in Dr. David Harrison's laboratory where she defined a novel pathway of immune cell activation in hypertension involving formation of Isolevuglandin (IsoLG)-protein adducts which act as neoantigens. In 2016, she joined the Faculty at Vanderbilt University Medical Center in the Department of Medicine as a tenure track Assistant Professor.

Research in Dr. Kirabo's laboratory focuses on understanding the interaction between oxidative lipid modifications and inflammation in the genesis of hypertension and kidney disease, and how excess dietary salt, the gut microbiome and HIV infection play a role. She has developed novel state-of-art techniques for measurement of IsoLGs in cells and innovative approaches to monitor dendritic cell and has published over 40 peer-reviewed scientific journal articles, with over 20 as first or senior/corresponding author and together, her work has been cited over 1,500 times.

In addition to Dr. Kirabo's scientific contributions, she has dedicated substantial time and effort to national and international service. She is Associate Editor for Circulation Research; serves on the Hypertension Editorial Board and section editor for Current Hypertension Reports. She is on several AHA and APS committees, has received several awards and delivered numerous invited talks nationally and internationally.

■ THE MARVIN MOSER CLINICAL HYPERTENSION AWARD



Jackson T. Wright Jr., MD, PhD, FAHA

Dr. Wright is professor emeritus of Medicine at Case Western Reserve University (CWRU) and former Director of the William T. Dahms, MD Clinical Research Unit and the Clinical Hypertension Program at University Hospitals Case Medical Center. An experienced clinical investigator, he has published over 300 articles, book chapters, and abstracts and has served on multiple national and international advisory panels.

Dr. Wright's research experience includes having had a major or leadership role in multiple major hypertension clinical outcome trials over the past three decades, especially those conducted in minority populations. These include the African American Study of Kidney Disease and Hypertension Trial (AASK), the Antihypertensive and Lipid-Lowering to Prevent Heart Attack Trial (ALLHAT), and the Systolic Blood Pressure Intervention Trial (SPRINT). He has served on the data safety and monitoring boards (DSMB) for other major clinical trials including the Diet Approach to Prevent Hypertension (DASH) and DASH Sodium trials, the African American Heart Failure Trial, and chaired the DSMB for the CVRx Pivotal Trial. Since 2017, in addition to his funded research, he now serves as a lead advisor on the Hypertension Quality Improvement Project and co-leader of Team Best Practices for the Ohio Cardiovascular Health Collaborative. These collaborations of the Ohio academic medical centers led by CWRU are both funded by the Ohio Department of Medicaid (ODM) to work with major Medicaid providers in the state to improve BP control and the elimination of racial health disparities in control.

Dr. Wright served on the three latest US national hypertension guideline panels including JNC-7, "JNC-8", and the 2017 ACC/AHA Hypertension Guideline. In addition to the 2020 Marvin Moser Clinical Hypertension Award, in 2015 he was honored by the receipt of the 2015 American Heart Association Clinical Research Award.

■ IRVINE PAGE-ALVA BRADLEY LIFETIME ACHIEVEMENT AWARD



Anil K. Bidani, MD, FAHA

Dr. Bidani is Professor of Medicine and Division Director of Nephrology and Hypertension at Loyola University Medical Center and a Staff Physician at the Edward Hines, Jr. Veterans Affairs Medical Center in Maywood, Illinois. He graduated from the University of J & K, Kashmir, India School of Medicine in 1966, where he completed his residency training. In 1972 he completed training in Pediatrics at the St. Joseph Infirmary in Louisville, Kentucky and subsequently did a Pediatric Fellowship in Nephrology at Wayne State University in Detroit

where he served as an Assistant Professor of Medicine before moving to Chicago in 1978. After completing a Nephrology Fellowship at Rush-Presbyterian-St. Luke's Medical Center he stayed on as a faculty member until moving as a Professor of Medicine to Loyola University Medical Center in 1990.

Dr. Bidani's research has employed an integrative approach with collaborators having diverse expertise in renal hemodynamics, signal processing, and mathematical modeling to investigate real-time renal hemodynamics in conscious animals that has provided important insights into hypertensive renal damage. Dr. Bidani has received over 20 years of NIH funding and written over 100 peer-reviewed articles and book chapter publications. He has served as a reviewer for NIH Study Sections and is a Fellow of the American Society of Nephrology and the American Heart Association. Additionally, he has served on the editorial boards of the American Journal of Physiology, Hypertension, and the American Journal of Nephrology. Over the course of his career he has trained 90 nephrology fellows.

■ DISTINGUISHED ACHIEVEMENT AWARD

The scientific councils' Distinguished Achievement Award recognizes individuals who have made major contributions to the affairs of a scientific council over a continuing period, and who have made substantial professional contributions to the field represented by the council.

The Council on Hypertension and Council on The Kidney in Cardiovascular Disease are pleased to recognize this year's Distinguished Achievement Awardees.

■ Council on The Kidney in Cardiovascular Disease Distinguished Achievement Award



Donald Kohan, MD, PhD, FAHA

Dr. Kohan is Professor of Medicine at the University of Utah. He studies autocrine and paracrine regulation of kidney function and blood pressure. He has translated his bench research into major clinical trials in kidney disease.

■ Council on Hypertension Distinguished Achievement Award



Professor Dame Anna F. Dominiczak, DBE, MD, FAHA

Dr. Dominiczak is Regius Professor of Medicine, Vice Principal and Head of College of Medical, Veterinary and Life Sciences at University of Glasgow; Honorary Consultant Physician and Non-Executive Member of NHS Greater Glasgow and Clyde Health Board; and Health Innovation Champion for Medical Research Council. In 2016, she was awarded a DBE for services to cardiovascular and medical science.

■ STEPHANIE WATTS CAREER DEVELOPMENT AWARD

Sponsored by the Council on Hypertension's Trainee Advocacy Committee (TAC) and Data Sciences International (DSI)

The **Stephanie Watts Career Development Award** supports early career investigators working in hypertension and cardiovascular research who show exceptional promise but may be currently unfunded or have limited access to extramural funding.

The award honors the advocacy work of Dr. Stephanie Watts. Dr. Watts is an exemplary mentor, who is avid to assist her trainees and many others to reach their career goals and become accomplished scientists who aspire to her achievements.

Finalists will present their project pitch during a special session where one winner will be selected. The winner will receive a complete Data Sciences International (DSI) 4-animal telemetry system.



Rhéure Alves-Lopes, PhD
Postdoctoral Fellow
University of Glasgow



Onur Cil, MD, PhD
Assistant Professor Department of Pediatrics
University of California San Francisco



Karla B. Neves, PhD
Postdoctoral Fellow Institute of Cardiovascular
and Medical Sciences
University of Glasgow

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