



American Heart Association®

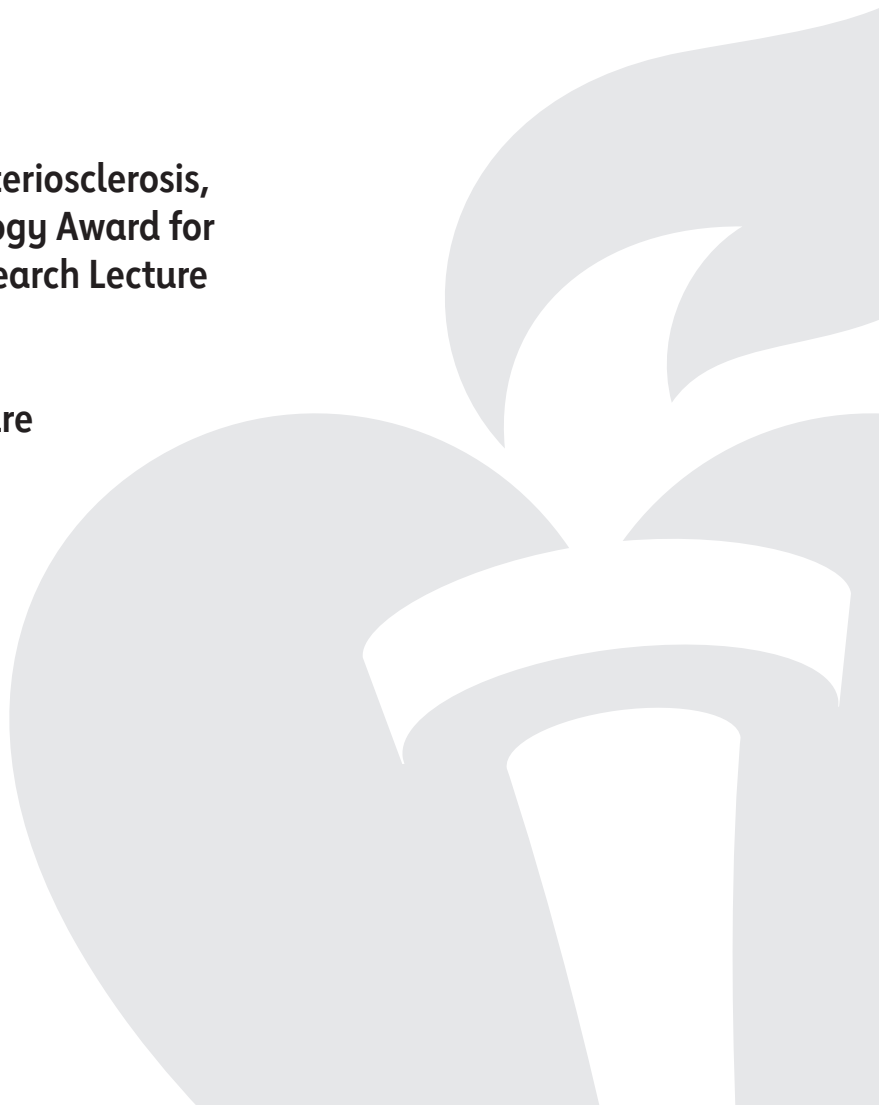
Vascular Discovery: From Genes to Medicine

Invited Lecture Series

Conference Highlights – Lectures and Awards

Saturday, May 14, 2022

- 10:30 am – Jeffrey M. Hoeg Arteriosclerosis, Thrombosis and Vascular Biology Award for Basic Science and Clinical Research Lecture
- 11:00 am – Keynote Lecture
- 11:30 am – Distinguished Lecture



JEFFREY M. HOEG ARTERIOSCLEROSIS, THROMBOSIS AND VASCULAR BIOLOGY AWARD FOR BASIC SCIENCE AND CLINICAL RESEARCH



Pradeep Natarajan, MD, MMSc
Genomic Aging and Cardiovascular Disease

Dr. Pradeep Natarajan is the Director of Preventive Cardiology and the Paul and Phyllis Fireman Endowed Chair in Vascular Medicine at Massachusetts General Hospital, Associate Professor of Medicine at Harvard Medical School, Associate Member of the Broad Institute of Harvard, and MIT. He received his BA in molecular biology with Honors and Phi Beta Kappa in 2004 from the University of California, Berkeley. He received his MD with Alpha Omega Alpha in 2008 from the University of California, San Francisco. He received his MMSc in biomedical informatics in 2015 from Harvard Medical School. He completed his internship and residency in internal medicine at Brigham and Women's Hospital in 2011. He completed his fellowship in cardiovascular medicine at Massachusetts General Hospital in 2015 where he established his laboratory in 2017.

Dr. Natarajan uses germline and somatic genetic variation to uncover new biology and enable enhanced clinical care for cardiovascular disease. He leads several consortia using genetic epidemiology, large-scale sequencing studies, genotype-driven human investigation, and genetic testing implementation. Among his scientific contributions, he has pioneered 'human knockout' discovery and investigation to prioritize therapeutic targets, monogenic and polygenic characterization of heritable traits through whole genome sequencing, and the novel concept of somatic mutations contributing to cardiovascular disease. He is an Associate Editor for JAMA Cardiology and Science Advances. He is an elected member of the American Society for Clinical Investigation.

In tandem to his research efforts, Dr. Natarajan oversees clinical and training programs for cardiometabolic disease prevention leading the MGH Cardiovascular Disease Prevention Center.

Jeffrey M. Hoeg Arteriosclerosis, Thrombosis and Vascular Biology Award for Basic Science and Clinical Research – Award History

The Jeffrey M. Hoeg Arteriosclerosis, Thrombosis and Vascular Biology Award for Basic Science and Clinical Research was established in 1999. The award recognizes an established investigator in the prime of his/her career who has made an outstanding contribution to furthering understanding of the pathophysiology of atherosclerosis and/or the development of treatment strategies for its prevention through basic science and clinical research efforts. This award honors the memory of Jeffrey M. Hoeg, MD, chief of the Section of Cell Biology within the Molecular Disease Branch of the National Heart, Lung, and Blood Institute, NIH. He was an extraordinary research scientist and physician who, in the prime of his career, was working in the field of lipoprotein metabolism and atherosclerosis. Dr. Hoeg died in July 1998 after a courageous battle with cancer.

KEYNOTE LECTURE



Stefania Nicoli, PhD

Cerebrovascular Disease:

A Message of Hope from the Developing Embryo

Dr. Nicoli received her BS in biotechnology science from the University of Milan and received her PhD in biomedical biotechnology from the University of Brescia School of Medicine, Italy. Following postdoctoral studies at UMASS Medical School, she joined the faculty of the Department of Internal Medicine/ Cardiology at Yale University School of Medicine as an Assistant Professor. In 2018, she was promoted to Associate Professor in Genetics and Internal Medicine/Cardiology and is currently the

Co-Director of the Yale Cardiovascular Research Center (YCVRC) and Director of the Zebrafish Phenotyping Core for Precision Medicine at Yale School of Medicine, where she promotes new scientific programs to advance clinically relevant discoveries.

As an independent investigator, Dr. Nicoli has a proven track record of uncovering new biological concepts, pioneering new strategies, fostering interdisciplinary approaches and collaborations, and developing strong teams. Her passion for complex biological questions started early on during her graduate studies where she established a new model to test tumor angiogenesis using the perivitelline space of zebrafish embryos. This model is now recognized internationally as a standard assay to test tumor neovascularization. During her postdoctoral training, she gained expertise in genetics and genomics for dissecting complex signaling pathways driven by small non-coding RNAs leading to major advances in the field of vascular hemodynamics and tip cells biology.

Her commitment to generating successful scientists (and in turn a successful lab) has led to many conceptual innovations and discoveries and answering long-standing questions in biology previously out-of-reach. Major conceptual breakthroughs include the discovery of novel functions for microRNAs as buffers for cells against environmental perturbations, mechanical stresses, and genetic variants, all of which reflecting a body of work having far-reaching implications for development and diseases.

The Nicoli lab recently uncovered the essential role for N-glycosylation as a determinant of the endothelial-to-hematopoietic transition, a transformative work for the blood stem cell field. Altogether, they have revealed unanticipated molecular mechanisms driven by microRNAs that control tissue homeostasis in the face of perturbations and prevent disease progression.

DISTINGUISHED LECTURE



Kathryn J. Moore, PhD, FAHA

Cardiovascular Disease: Impact Beyond the Heart

Dr. Kathryn Moore is the Jean and David Blechman Professor of Cardiology, and the Director of the Cardiovascular Research Center at New York University School of Medicine. She is internationally recognized for her research on the molecular pathogenesis of cardiometabolic diseases, and the roles that non-coding RNAs and dysregulated immune responses play in those settings. By forging new links between lipids, metabolism and innate immunity, her discoveries have revealed fundamental insights into pathways that regulate cholesterol homeostasis and vascular inflammation.

Dr. Moore received her PhD from McGill University in Canada. Although her early research focused on the immune response to pathogens, she became fascinated with the mechanisms of chronic inflammation, and pursued postdoctoral training at Harvard Medical School in the areas of autoimmunity and atherosclerosis. She joined the Harvard Medical School faculty as an Assistant Professor in 2001, before moving to New York University in 2009.

Dr. Moore's contributions to the fields of innate immunity and vascular biology have been recognized by numerous awards, including the NIH's Outstanding Investigator Award, the AHA's Distinguished Scientist Award, and election to the National Academy of Sciences USA.

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