

Biographical Profile

Thomas Michel is Professor of Medicine and Biochemistry at Harvard Medical School and a Senior Physician in Cardiovascular Medicine at Brigham and Women's Hospital. A native of Portland, Oregon, Michel received his A.B. in Biochemical Sciences from Harvard College in 1977. He received his Ph.D. in Biochemistry in the laboratory of Robert Lefkowitz and his M.D. degree from Duke University in 1984. His clinical and postdoctoral training in internal medicine and cardiology was at Brigham and Women's Hospital (BWH) and Harvard Medical School (HMS). He was then appointed to the faculty at HMS and BWH, where he has worked as a scientist, teacher, and clinician for many years. Michel lives with his wife in Watertown, MA.

Author of ~300 peer-reviewed research papers, reviews and book chapters, Michel is a world leader in the field of *cardiovascular signal transduction*: the study of how cells and tissues in the cardiovascular system communicate, and how these communication pathways are altered in disease states such as atherosclerosis, diabetes, and heart failure. His research studies have had an enormous impact on our understanding of vascular biology, with many notable "firsts". Michel's laboratory was the first to clone and characterize the endothelial nitric oxide synthase (eNOS), a key enzyme in cardiovascular homeostasis. His lab has pioneered the development and application of biosensors to explore intracellular signaling responses involving oxidant-mediated pathways. Michel was the first to generate and validate in vivo models of oxidative stress using the new science of chemogenetics, leading to the creation of novel animal models of heart failure and neurodegeneration. His active research program currently spans from state-of-the-art cellular imaging to the development of informative chemogenetic animal models to study signal transduction pathways involving reactive oxygen and reactive nitrogen species in diabetes, neurodegeneration, and heart failure.

Michel has garnered numerous prizes for his research, including the John J. Abel Award in Pharmacology from the American Society for Pharmacology and Experimental Therapeutics. He was awarded the Paul Vanhoutte Distinguished Lectureship in Vascular Pharmacology and received the biannual Discovery Award from the Society for Free Radical Biology and Medicine. He received the 2024 Clinical Science Award from the Society for Free Radical Research for his work exploiting chemogenetic approaches to create new animal models of heart failure using oxidative stress. He has been elected to membership in the American Society of Clinical Investigation, the Association of University Cardiologists, the Association of American Physicians, and as a Fellow of the American College of Cardiology. He served as Chair of the Pharmacology Study Section at the NIH and on numerous editorial boards. For many years, he has been a leader of the Sarnoff Cardiovascular Research Foundation, and currently serves as the Chair of the Sarnoff Cardiovascular Research Foundation Board of Directors.

Michel is also a practicing cardiologist and committed educator. He served as the first Dean for Education at Harvard Medical School, where his innovative teaching programs helped to transform both medical student and graduate student education at HMS. Michel is a leader of the Harvard-MIT MD-PhD program. Michel introduced the teaching of societal implications and social contexts of biochemical discoveries in graduate school courses across Harvard Medical School. He has received numerous awards for teaching and mentoring, including the Braunwald Clinical Cardiology Teaching Award; the Baughman Faculty Mentoring Award; the Jackson Distinguished Bedside Teaching Award; the Shackleford Graduate School Teaching Award by the HMS graduate students; and the Faculty Mentor Award from the BWH medical residents.

Michel is also a leading advocate of humor and music in science and serves as an editor of the Annals of Improbable Research and is on the Central Committee for selection of the Ig Nobel Prizes. He is the Musical Impresario of the Ig Nobel Prize Ceremony held annually at Harvard. An avid amateur accordionist, he has toured internationally on accordion and is the founding musical director of The Boston Squeezebox Ensemble – the official accordion octet of the Ig Nobel Prize Ceremony.