THE FACULTY OF MEDICINE
Harvard University

# Charles A. Hales

*Photograph courtesy of Mary Ann Hales*

(1941-2015) Charles A. Hales, MD, Professor of Medicine and former Chief of the Pulmonary and Critical Care Medicine Unit at Massachusetts General Hospital died on October 31, 2015 at the age of 74. Dr. Hales was a world famous pulmonary vascular biologist, expert pulmonary clinician, and devoted educator and mentor.

Charles Hales was born in Greely Colorado on April 27, 1941 and graduated from Emory University in 1962 and received his medical degree from Emory University School of Medicine in 1966. Dr. Hales married Mary Ann (Little) Hales while studying in Atlanta.

Dr. Hales completed his internship and one-year medical residency at Boston City Hospital before serving in the US Navy as a Medical Officer during the Vietnam War. After military service, Dr. Hales completed his residency at the University of California Medical Center in San Francisco and his Pulmonary Fellowship at Massachusetts General Hospital. Dr. Hales joined the faculty in 1973 where he rose to the rank of Professor of Medicine at Harvard Medical School 1996.

Dr. Hales published important and probing papers, perhaps not surprising given his lineage to the great Stephen Hales (1677-1761), the first to measure blood pressure and pulmonary capillary transit time and the father of plant physiology.

Dr. Hales made seminal contributions to our understanding of the pulmonary circulation and the response to infection, smoke inhalation, and hypoxia. He described a blunted hypoxic pulmonary vasoconstrictor during infection and traced this to generation of vasodilator prostaglandins. He was one of the first investigators to focus on preventing and treating pulmonary arterial hypertension by focusing on the pulmonary arterial structural changes at a time when most of the field was focusing on vasodilator therapies. Dr. Hales identified subfractions of heparin that ameliorated both pulmonary hypertension and vascular remodeling in experimental models and determined that non-anticoagulant antiproliferative effects of heparinoids on vascular smooth muscle cells mediated these effects. Dr. Hales was intrigued

and inspired by the MGH diagnosis and treatment of delayed pulmonary edema (ARDS) following the devastating 1942 fire at the Cocoanut Grove nightclub. He identified toxins in smoke from residential and commercial fires that mediate inhalational lung injury (principally acrolein) and the importance of the bronchial circulation in the propagation of lung injury. Dr Hales also excelled in NIH-funded clinical research focused on diagnostic methods to detect pulmonary emboli.

Dr. Hales was internationally recognized for his research and teaching. His presentations at scientific meetings reflected his insight and legendary attention to detail. Dr. Hales was gracious with his time and spent countless hours during these meetings with young investigators from around the world. Many generations of young scientists recall a "Dr. Hales visit" to their posters and enthusiastically returning to the lab with new ideas and renewed enthusiasm for the importance of their work. He oversaw the development of the combined Harvard Pulmonary and Critical Care Fellowship Training Program, the largest in the country, and served as the PI of the Unit's Lung Cell and Molecular Biology Training Grant (T32). He taught with a unique blend of humility and humor.

Dr. Hales was an astute and admired clinician who always served as the Attending Physician for the Intensive Care Unit in July where new residents and fellows learned from a master clinician, were comforted by his wisdom and experience, and motivated by his incredible work ethic and tireless advocacy for patients. He was often the last to leave the hospital.

Dr. Hales received many awards during his distinguished career and served as a Visiting Professor around the world. Awards include the Dickenson Richards Lecturer for the American Heart Association (AHA) where he was selected as a Fellow and received the AHA's Distinguished Achievement Award. The American Thoracic Society bestowed the Robert Grover award for outstanding contributions to the study of the effects of hypoxia and high altitude on the pulmonary circulation.

Dr. Hales loved the ocean and enjoyed summers with family on his coastal Maine island retreat. His strong tenor voice was cherished by the congregation at First Parish in Lincoln.

Dr. Hales was a rare example of the so-called quadruple threat: accomplished basic scientist, clinical scientist, teacher, and clinician. As a Division Chief, Dr. Hales inspired a generation of academic physicians who pursued careers as successful clinicians, scientists, and medical educators. He is survived by his wife of 50 years, Mary Ann Hales, their three sons, Sam, Chris, and John, and seven grandchildren.

Respectfully Submitted,

B. Taylor Thompson, *Chairperson*
Benjamin Medoff,
Homayoun Kazemi
David Systrom