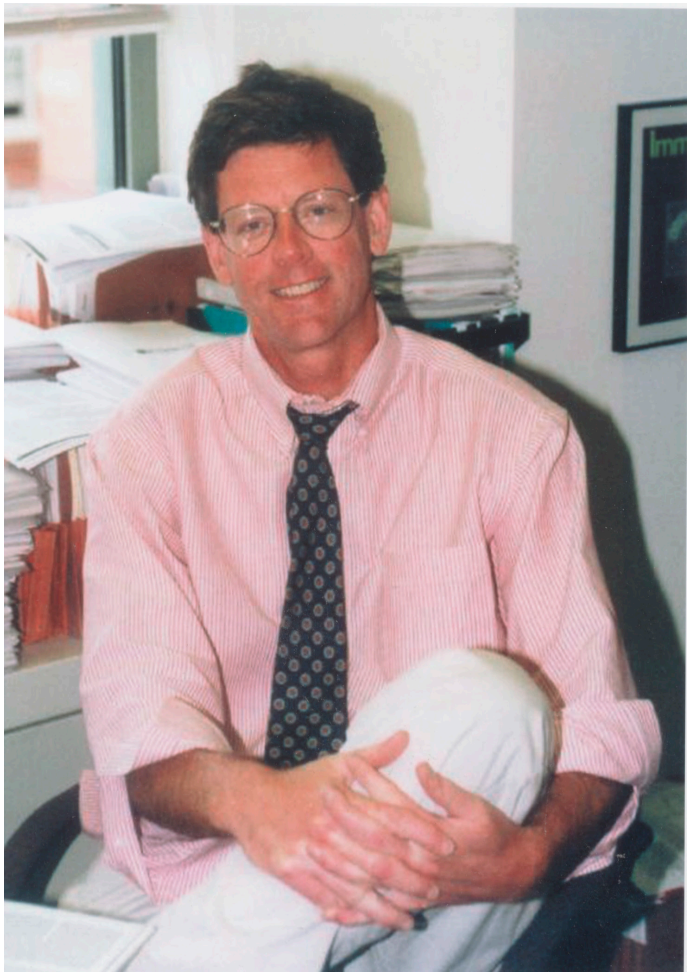
THE FACULTY OF MEDICINE
Harvard University

Tucker Collins



It is with very mixed emotions that we write this Memorial Minute in honor of Dr. Tucker Collins—joyful because we are celebrating the distinguished accomplishments of a good colleague, collaborator, and friend; and, at the same time, deeply saddened by his untimely death at the age of but 54 years due to an aggressive brain tumor.

Tucker received his BA from Amherst College in 1975, and completed his M.D., Ph.D. at the University of Rochester School of Medicine in 1981. He completed his residency training in Anatomical Pathology at Brigham and Women's Hospital in 1986 under his mentor Dr. Ramzi S. Cotran. Tucker then became one of the first research fellows in the newly established Vascular Research Division, headed by Dr. Michael Gimbrone. He worked in the laboratory of Dr. Jordan Pober, where he performed some of the earliest studies of the induction of major histocompatibility antigens in the human endothelial cell, providing novel insights into the active role played by the blood vessel wall in immunological reactions. This work was among the first to apply the tools of molecular biology to the study of endothelium, and was followed by his successful efforts to clone PDGF A and B chain cDNAs from endothelial-derived libraries.

Tucker rose to the rank of Professor of Pathology in 1992. In 2001, he was named the S. Burt Wolbach Professor of Pathology and the Chief of Pathology at Boston Children's Hospital. Under his leadership, the department underwent unparalled growth in its clinical services. Tucker was also deeply committed to consolidating and expanding the department's Research Division, already instituting important improvements. Among many of his professional accomplishments, Tucker was a Pew Scholar in Biomedical Research, a founding member of the North American Vascular Biology Association, and an Established Investigator of the American Heart Association. He was also a Scholar in the Academy at Harvard Medical School, and past President of the American Society for Investigative Pathology and of the New England Society of Pathologists. Tucker received many distinguished awards in his too brief career,

including a MERIT Award from the National Heart Lung and Blood Institute, the Warner-Lambert/ Parke-Davis Award in Experimental Pathology (FASEB), and the Partners in Excellence Individual Award from the Brigham and Women's Hospital.

To remember Tucker is to remember his three great passions: teaching, research, and his family—notwithstanding his legendary love for sailing at the helm on the high seas!

In the Harvard Medical School community, Tucker was deservedly recognized as a vibrant teacher and committed mentor (1). He served for more than a decade as the Associate Master of the Peabody Society, interacting with medical school students on a daily basis, providing academic guidance and personal support to literally hundreds of individuals during the critical formative stages of their career development. He was a passionate advocate of Pathology as an academic discipline, and provided dynamic leadership as a Course Director in the core undergraduate medical curriculum. His impact as an educator was further amplified by his role as a coeditor of the sixth edition of Robbins Pathologic Basis of Disease, as well as the author of numerous definitive reviews and book chapters. Tucker led by example in the laboratory—the first one at the bench in the in the wee hours of the morning. Tucker is remembered as voracious reader of the literature who always developed a comprehensive understanding of any problem. His colleagues would ask him to review papers prior to submission because no one was a tougher critic than Tucker, and if the papers passed him, it was likely to pass review. His energy was seemingly boundless, bolstered by a bottomless cup of coffee, and his enthusiasm for doing science infectious. His numerous trainees and collaborators benefitted from his personal generosity of spirit. Many have gone on to populate academia and industry—a truly living legacy of his scientific endeavors.

In his research, it is probably a little appreciated fact, known perhaps only to his friend in college and medical school days, Dr. Berk (a member of this committee) that Tucker's research career began at Rochester. At that time, the two…"came up with the crazy idea to study microtubule structures in Tetrahymena." According to Dr. Berk, they made "beautiful electron micrographs of these microtubules, and sent [their] data to a long-forgotten journal, which promptly rejected it as lacking novelty." We're not sure how that could be!

Nevertheless, Tucker was regarded as a trailblazer in the molecular biology of vascular endothelium almost from the get-go (1). His seminal contributions included elucidation of the transcriptional mechanisms underlying the "activation" of the endothelium by pro-inflammatory cytokines, as well as the first description of the transcriptional regulation of PDGF molecules in the human endothelial cell, and the functional dissection of the promoters of the adhesion molecules VCAM-1 and E-selectin. Perhaps the most significant area of his laboratory's contributions was the exploration of the central role of the NF-kappa B transcription factor family in endothelial homeostasis. This corpus of work pointed the way to studies of the pharmacologic modulation of this pathway by proteasome inhibitors, as a novel therapeutic approach to the myriad manifestations of inflammation in acute and chronic diseases. Related work focused on other pathophysiological significant transcriptional regulators such as Egr-1, and the roles of the SCAN family of zinc finger transcription factors in development and disease. His final efforts had turned to an understanding of the pathogenesis of arterial disease in pediatric heart transplant recipients, bringing together his long-term interests in arterial diseases and his role as Pathology Chair and the Boston Children's Hospital.

For those of us fortunate to know Tucker's wife, Mary Whitley, and his teenage daughter, Caroline, it is clear why his greatest passion was for them. To know them is to understand the great support, comfort,

and peace he had at home that made him such a success in his life, and such a truly courageous man in his dying.

Respectfully submitted,

Hannah C. Kinney, MD, chairperson
Michael Gimbrone, MD
Jordan Pober, MD, PhD
Bradford Berk, MD, PhD

January 28, 2013

Reference

1. Paragraph adapted in part from “Tucker Collins, M.D., Ph.D., 1952-2007”, published in Amer. J. Pathology, 172(4): 855-856, April 2008, M. A. Gimbrone Jr. and J. S. Pober.