In Memoriam:

Charles M. Mansbach, II

(1937-2015)

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The field of intestinal lipid absorption lost one of its true pioneers with the passing of Charles M. Mansbach, II on August 19, 2015 after a lengthy illness. Over a long and distinguished career, Charlie, as he was affectionately known by friends and family, made numerous important contributions to our understanding of the factors involved in intestinal lipid absorption in general and chylomicron assembly in particular. His seminal work delineating the cellular mechanisms and regulation of the mucosal phase of lipid absorption, especially elucidation of the details of the role of the pre-chylomicron transport vesicle (PCTV), often challenged existing paradigms. However, his conclusions were always supported by meticulously designed and conducted experiments. Those of us fortunate enough to get to know Charlie revered him not only as a superb scientist, but also as a friend and colleague. We will all greatly miss his mentorship, love of life, sense of humor, and wide-ranging expertise on everything from history and opera to wine and haute cuisine.

Charlie was born in Norfolk, VA on August 21, 1937. He graduated from the George School in Bucks County, PA and subsequently from Yale University, class of 1959. He received his M.D. degree from New York University School of Medicine in 1963. He completed his internship and residency in internal medicine at Duke University Medical Center in Durham, NC, and he subsequently joined the faculty of the Gastroenterology Division at Duke where he served for many years. From 1968 to 1970 he served as a Lt. Commander in the Navy stationed at Portsmouth Naval Hospital in Portsmouth, VA. After military service, he returned to Duke, where he was promoted to Associate Professor with tenure. In 1986 he was recruited to Memphis as Professor and Chief of the Division of Gastroenterology at the University of Tennessee Health Science Center, a role he served with distinction until 2002. He then continued at UTHSC as
Professor of Medicine and Physiology, where he maintained an active research laboratory, with an appointment at the Memphis Veterans Administration Medical Center.

Among Charlie’s many contributions to our field, arguably his most important came during the last decade of his life, when he delineated the details of pre-chylomicron ER to Golgi trafficking via the PCTV. He elucidated the cell-specific and molecular mechanisms of PCTV formation in a series of landmark publications. These detailed studies provided the first demonstration of a mechanism uniquely adapted for the transport of large, triacylglycerol-rich pre-chylomicron particles to the Golgi prior to basolateral secretion, utilizing a pathway distinct from that used for proteins. Through an elegant series of experiments, his laboratory demonstrated that COPII proteins are not necessary for PCTV ER budding, but are present at the time of docking to the Golgi via the N-ethylmaleimide sensitive factor attachment protein receptor (SNARE) complex, with Sec24C playing an essential role. Charlie showed that PCTV budding from ER requires ATP and involves interactions with liver fatty acid binding protein (Fabp1), which is released from a multiprotein cytosolic complex. Fabp1 release is mediated via phosphorylation of Sar1b by protein kinase C (PKC) ζ, which is in turn activated by lysophosphatidylcholine, derived from both dietary and biliary phospholipid. The elucidation of pathways for PCTV formation has helped define at least one important mechanism to regulate intestinal chylomicron output.

Over the course of his career, Charlie published over 100 peer-reviewed manuscripts and authored 17 book chapters. As a result of this sustained productivity, Charlie enjoyed continuous NIH and Veterans Administration funding for his research. In addition, Charlie was an active participant in peer review and served on many NIH and VA grant review panels over the years.
His grant reviews were legendary. Colleague and collaborator Judith Storch recalls, “Charlie was one of the senior people on the NIDDK General Medicine A2 study section when I joined it in 1990. He was truly a mentor, and how can we ever forget his "Mansbachian" reviews? He left no stone unturned, shall we say, in trying to help the investigators understand the strengths and weaknesses of their proposals. We used to bring our reviews as hard copies, and I can still picture the thick sheaf of papers that would emerge when it was his turn to speak!”

In addition to his scientific contributions, Charlie was a devoted husband to May Lynn, his wife of 53 years, who described Charlie, “as always such a great companion, an intrepid traveler, and an interested, courageous, sunny, conscientious, and kindly man.” Among her many roles, May Lynn contributed to Charlie’s manuscripts, as he would frequently call her to adjudicate the final wording of a particular sentence. Charlie was especially proud of his three sons, Harry Mansbach, III, MD, Samuel Ross Mansbach and Jonathan M. Mansbach, MD and his 8 grandchildren. Charlie loved music and had an encyclopedic knowledge of opera and classical music. His gastronomic expertise was legendary. Many of us will always remember forays with Charlie to the best restaurants, especially in New Orleans, where he often knew the owner by name, and had a favorite table and server.

Charlie was especially proud of his role as one of the founders and supporters of the FASEB Summer Conference on Intestinal Lipid Transport, which first convened in 1990. This conference was close to Charlie’s heart, both because almost every major figure in the field participated and he loved interacting with trainees and junior investigators. Recently, with the conference on hiatus since 2006, Charlie helped spearhead a successful effort to re-establish this
important forum, which resumed in the summer of 2014. Charlie trained numerous students and fellows, many of whom have pursued academic careers. His love of mentoring is summed up by Shadab Siddiqi, one of his former trainees, now an independent, NIH-funded scientist, “He was more than a mentor and cared about me as much as a parent and shaped my career. He used to enjoy discussing science for hours, his fervor for research was contagious, and he never raised his voice or lost his temper in my 17-year interaction with him, but was always compassionate, inspiring and full of humor.”

A few months ago, as his illness was taking its final toll, Charlie was invited to participate in a symposium at AGA Digestive Disease Week. He was also recovering from a fractured hip and was confined to a motorized cart. He insisted on participating, and despite his condition, gave a great talk, attended many of the other sessions and, as always, had a great time interacting with other researchers and colleagues. He refused to allow his illness to interfere with the things he enjoyed most in life.

Fred Gorelick, one of Charlie’s close friends and collaborators noted, “One of Charles’ great life lessons, contained in his approach to science and life outside science, was his humility and acceptance of the world as it presents. I was always calmed by our conversations and by their ability make it an easier task to rationally face the next day and the next grant review. I have had a few treasured colleagues and mentors that have been my guides through this academic life. Charles has been one of them. A characteristic that each shared is the inspiration they conveyed to me by their unrelenting and uncompromising love of science and discovery. At the center of Charles’ spirit, followed a life dedicated to thinking about science, asking scientific questions,
and trying to answer them. We have all been very privileged to have had him as a colleague and friend.”