On November 7, 2010, cancer research lost one of its most personable, innovative, and productive investigators, Gerald C. Mueller—known by his friends and associates as Gerry. He had a passion for research that was exemplified by his interactions with his students, postdoctoral fellows, and faculty colleagues. His enthusiasm radiated out to investigators in cancer research in this country and abroad. He delighted in the weekly McArdle faculty meetings—many, if not most, devoted to the presentations of individual research programs by faculty colleagues. Gerry described these meetings as having "served to assure the high-quality research that credits McArdle. There is nothing like having to defend one’s ideas and progress in front of your fellow faculty members."

Gerry was born in Centuria, Wisconsin on May 22, 1920, to Marie K. Pape and Emil F. Mueller and was the oldest of four male siblings. He attended the University of Wisconsin-Madison for his undergraduate training, receiving a BS in medical science in 1943. While a premedical student, Gerry spent time in the laboratory of Harold P. Rusch, MD, the founder of Wisconsin’s McArdle Laboratory for Cancer Research. He studied the biochemical actions of chemical carcinogens and of ultraviolet radiation, developing as an undergraduate his fascination and love for investigative research. He went on to receive his MD from the University of Wisconsin in 1946 and then spent a year in an internship at the Medical College of Virginia in Richmond. Forsaking the financial rewards of medical practice, he returned to Wisconsin in 1947 to pursue a PhD in physiology. Upon graduating in 1950, Gerry accepted a position as Assistant Professor of Oncology in the McArdle Laboratory, joining Harold P. Rusch, MD, Van R. Potter, PhD, James A. Miller, PhD, Roswell K. Boutwell, PhD, Elizabeth C. Miller, PhD, and Charles Heidelberger, PhD, as the founding faculty members of the Laboratory. These investigators established the collegial atmosphere and set the standard for excellence in research in McArdle in the middle of the last century.

Gerry's range of interests and enthusiasm for scientific problems were boundless. He made a number of seminal observations on the growth and differentiation of normal and neoplastic cells. He was one of the earliest to demonstrate that estrogens and likely other steroid hormones produced their major biologic effects by altering the expression of specific genes as mediated through specific receptors. Many other scientists confirmed these studies later as new methods were developed to extend these investigations to the isolation and characterization of hormone receptor proteins and their genes.

Gerry developed a cross-linking technology whereby he demonstrated the functions of estrogen receptors in the assembly of transcription-related protein groups in the region of regulatory sites of estrogen-responsive genes. Later, his methods were refined and combined with other technologies to demonstrate and characterize the multiprotein complexes of the estrogen receptors and other steroid receptors that interacted with control regions of their respective target genes. He was a pioneer in the development of a practical method for the synchronization of mammalian cell populations in vitro, allowing for investigations of the role of soluble proteins and chromatin in DNA chain growth, and thus providing a basis for understanding both the perpetuation of cell phenotypes and their nonmutational change through differentiation. Gerry investigated mechanisms involved in induced cell differentiation in cell culture, demonstrating the importance of phorbol esters and other ligands of the protein kinase C family that are involved in a variety of mechanisms of cell replication and terminal differentiation in both normal and neoplastic cells. He studied the effects of phorbol esters on lipid metabolism,
particularly the regulation of the synthesis of phosphatidylcholine. In a parallel interest, Gerry’s research revealed the synthesis of phosphatidylethanol, a metabolite of ethanol that may play a role in alcohol dependence.

Gerry’s scientific career extended over more than 40 years of active research, during which time he trained more than 100 graduate students and postdoctoral fellows in cancer research. This student–fellow–mentor relationship, together with collaborations with a number of colleagues throughout the world, led to more than 200 scientific publications. Several of his students became faculty members at the University of Wisconsin-Madison, and others have held positions of similar rank at cancer research institutions in this country and around the world as well as in industry. Gerry always took a personal interest in each of his trainees and followed their careers with great pride.

Gerry was a moving force in cancer policy in this country, participating throughout his career on numerous study sections, advisory committees, and editorial and review boards. He served on the Board of Scientific Counselors for both the National Cancer Institute and the National Institute of Environmental Health Sciences. Gerry served two terms on the Board of Directors of the American Association for Cancer Research (AACR) and was AACR’s President in 1982–83. In addition, he served on many AACR committees. He also served on the Board of Directors of the American Cancer Society. While a Professor in the Department of Oncology on the University of Wisconsin campus, he served for several years as the Assistant Vice President for Academic Affairs.

In 1991 Gerry became an Emeritus Professor of Oncology but remained active in the department for more than a decade after that. In 2007 he received the Wisconsin Medical Alumni Association Emeritus Faculty Award with his long-time colleague and friend, Roswell (Roz) Boutwell. The McArdle Symposium on Cancer in 2008 honored the research accomplishments of both Gerry and Roz, and many of their former students and postdoctoral fellows were in attendance.

Amidst all of his scientific accomplishments, Gerry also had time for and an enthusiasm for his family, friends, and colleagues. His colleagues in the McArdle Laboratory described Gerry’s primary ethic as “work hard, play hard.” Gerry and his wife Alice vacationed extensively in exotic places around the world, especially after Gerry’s retirement. They enjoyed travel tremendously, and Gerry also loved music—playing both piano and trumpet—as well as outdoor hobbies including bow and arrow hunting, hiking, and tennis. A much-loved summer family tradition was canoeing in Ontario, Canada. But the simplest and almost year-round escape was relaxing in the pastoral landscape of his small farm near Spring Green, Wisconsin. Gerry was warm and welcoming to his students and colleagues, and he and Alice were often the first in the department to invite a new Assistant Professor to their home for dinner. He was devoted to Alice, to whom he was married for 65 years. Alice passed away in April 2008, losing her 30-year battle to chronic lymphocytic leukemia.

Shortly before he died, Gerry commented, “There is no need for memorial festivities for me. Tell everyone I’m out of town, gone to be with Alice!”

Roswell K. Boutwell, PhD
Richard R. Burgess, PhD
William F. Dove, PhD
Henry C. Pitot, MD, PhD
On the Passing of Gerald C. Mueller, MD, PhD (1920–2010)

Cancer Res  Published OnlineFirst October 25, 2011.

Updated version  Access the most recent version of this article at:
doi:10.1158/0008-5472.CAN-11-3193

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