



Russell S. Long

RUSSELL G. MEYERAND JR.

1933–2003

Elected in 1978

“For pioneering in gas breakdown at optical frequencies and developments of high-power gas lasers.”

BY ANTHONY J. DEMARIA

RUSSELL G. MEYERAND JR., retired vice president of technology, United Technologies Corporation (UTC), died suddenly in West Palm Beach, Florida, on November 23, 2003. He was 69 years old.

Russell (or Russ as he was known to his colleagues) was born on December 2, 1933, in Kirkwood, Missouri, one of two children. Even as a child, he exhibited a notable interest and abilities in science, which continued to grow throughout his life, even after his retirement. He undertook formal training at Massachusetts Institute of Technology (MIT), where he earned a B.S. in electrical engineering in 1955, an M.S. in nuclear engineering in 1956, and a Ph.D. in plasma physics, under Professor “Sandy” C. Brown, in 1959. Russ’s Ph.D. thesis on plasma sources led to advances in ion-propulsion research.

While at MIT, Russ met Mary Grace, the daughter of one of his professors of electrical engineering. They were married in 1956 when Russ was 23 years old; at the time of his death, they had been married for 47 years. The couple had one child, Mary Elizabeth, now a tenured associate professor of medical physics at the University of Wisconsin, Madison. Russ is also survived by two grandchildren, Elsa Dorothy born in 2004 and Henry Russell born in 2006.

From 1955 to 1956, while studying for his master's degree, Russ was a consultant to General Electric Company in Schenectady, New York. In 1958, he joined United Aircraft Research Laboratories (UARL), East Hartford, Connecticut, as principal scientist in plasma physics. When the name of the company was later changed to UTC, UARL became United Technologies Research Center (UTRC), as it is still known today.

When Russ joined UARL, the research laboratories were beginning a major effort to expand basic research activities in the physical sciences while continuing strong programs in applied engineering research focused on propulsion and aerodynamic technologies. With his wide range of technical interests, outstanding talent, and contagious enthusiasm for being on the cutting edge of science and technologies, Russ soon became a "bright star" in the research center, and his responsibilities were steadily increased. He was promoted to chief research scientist in 1964, director of research in 1967, vice president of research and development of UTC (while also serving as director of research of UTRC) in 1980, and vice president of technology in 1982, a position he held until 1989 when he retired at the age of 56.

Russ was instrumental in assembling a research staff capable of conducting an expanded, long-term research program. Under his direction, the program prospered and made notable advances in plasma physics, high-energy lasers, electro-optics, fiber-optics, adoptive optics, integrated optics, and new propulsion concepts. His major research contribution (published in 1963 and 1964) was in explaining the physics of gas breakdown at optical frequencies and how optical-energy absorption from laser radiation could yield high-density plasmas. This research was cited in his election to membership in the National Academy of Engineering (NAE).

Under Russ's leadership, UTRC's staff grew to 1,500, including a high-power optics group in West Palm Beach, Florida, initially intended to support UTC's expansion into aerospace technologies. Later, in the 1970s, the group supported the UTC companies-acquisition program, under the leadership of Harry Gray. Russ was the impetus for a strategy for obtaining funding for the research center from three sources: one-third from other divi-

sions of UTC to ensure that research addressed problems relevant to the company's short-term needs; one-third from the corporation for research directed toward medium-term goals; and one-third from government contracts relevant to the long-term needs of UTC.

As corporate vice president of research and development and finally vice president of technology, Russ provided guidance for all technology matters, ranging from propulsion, helicopters, and avionic-type aerospace technologies to heating/ventilating/air conditioning systems, elevators/escalators, and automotive industrial/commercial technologies associated with new acquisitions.

In addition to NAE, Russ was a member of the Institute of Electrical and Electronic Engineers, American Physical Society, Scientific Research Society of America, Sigma Xi, National Bureau of Standards Visiting Committee, the board of directors of the Industrial Research Association, the board of directors of the Newington Children's Hospital in Newington, Connecticut, and a Fellow of the American Institute of Aeronautics and Astronautics. He served on the Scientific Advisory Board for the U.S. Air Force and the U.S. Army and was a member of the National Aeronautics and Space Administration Space Program Advisory Council.

In spite of heavy administrative duties throughout most of his career, Russ published 16 papers and was the owner of 19 patents, ranging from magneto-hydrodynamic generators, ion-acceleration propulsion devices, a laser radar system, and high-power lasers to thermionic converter batteries and hydrogen-generating devices.

Russ was also active in many volunteer activities. He was moderator of the Shady Harbor Fire District in Charlestown, Rhode Island, where he and Mary Grace owned a summer home; treasurer of the Nopes Island Conservation Association, an organization dedicated to the conservation of fragile barrier beach land on the south coast of Rhode Island; and a member of the board of directors and chairman of the Building Committee of Lake Point Tower in North Palm Beach, Florida, where the couple had a winter home.

In addition to his strong interest in preserving the environment, Russ was also very active in the Connecticut State Science Fair, acting as a judge for more than 15 years and spearheading the successful effort for a special award at the fair sponsored by UTC. As a father he could not have been more supportive and enthusiastic of his daughter's interest in science and engineering. Despite all of the responsibilities that came with his career at United Technologies, he made it clear that his role as father and husband always came first. In his daughter's words, while his professional accomplishments were many and of the highest quality, they could not even compare to who he was as a father.

He is survived by his wife, Mary Grace Meyerand; his daughter, Beth Meyerand, and her husband, Chad Moritz; his grandchildren, Elsa Dorothy and Henry Russell; and a sister, Kate; her husband, Larry Jacobs, and two nieces, Pam and Karen.

