



## ROBERT E. SCHAFRIK SR.

1946–2018

Elected in 2013

*“For innovation in materials for gas turbine engines.”*

BY MARY L. SCHAFRIK AND JIM WILLIAMS

**R**OBERT EDWARD SCHAFRIK SR., 72, passed away July 10, 2018. He was born in Cleveland, Ohio, to Edward E. and Sylvia Farina Schafrik on February 6, 1946, and lived most recently in Williamsburg, Virginia.

Bob graduated from St. Ignatius High School in 1963 with a scholarship to Case Institute (now Case Western Reserve), where he was a member of the honors fraternity Phi Kappa Phi and served as the chapter treasurer. In 1967 he received his bachelor of science degree in metallurgy.

He worked briefly as a filtration engineer at American Air Filter in Louisville, Kentucky, where he met Mary Louise Schuhmann. They married in October 1968, the same year he was commissioned as a 2nd lieutenant in the US Air Force. While in the service he earned a master of science degree in aerospace engineering from the Air Force Institute of Technology (1974), and a doctorate in metallurgical engineering from the Ohio State University (1979). He later earned an MS degree in information systems from George Mason University (1996).

In the Air Force Bob advanced to the rank of lieutenant colonel in 1984 and was assigned increasingly responsible positions, including division chief of Air Superiority Headquarters, AF Systems Command, Andrews AFB (1984–87) and division chief, Strategic Defense Initiative Office, Washington, DC (1987–88).

When he retired from the Air Force in 1988 he accepted a position as vice president of R&D at Technology Assessment and Transfer in Annapolis, Maryland, until he was hired in 1991 at the National Research Council (NRC), where he became director of the National Materials Advisory Board (1993–97) and Board on Manufacturing and Engineering Design (1995–97).

In 1997 he joined GE Aviation in Cincinnati, where he rose to general manager of the Materials and Process Engineering Department, heading the unit responsible for developing leading-edge materials, characterizing material properties, selecting materials for specific applications, preparing specifications, and ensuring an adequate global materials industrial base to support the company's NPI and legacy turbine engines. He and his team reduced the development time for new materials such as low rhenium turbine blade alloy, high-temperature cast-and-wrought disk alloy, and titanium aluminide turbine blade alloy, and expanded the use of composite applications in engines. He retired in 2014.

He held 21 US patents and was certified as a professional engineer in Ohio. He authored or coauthored over 20 papers in refereed journals, and coedited the chapter on "Modern Manufacturing" in the 1998 CRC *Mechanical Engineering Handbook*.

Bob was a nationally and internationally renowned expert in materials and manufacturing. After he left the NRC staff and joined GE, he was sought for service on a number of its boards and committees. Between 2005 and 2018, he served on some 15 studies and panels, including the Committee on Technologies to Deter Currency Counterfeiting (chair, 2005–07), Committee on Research Opportunities in Corrosion Science and Engineering (ROCSE) (cochair, 2008–10), National Materials and Manufacturing Board (2006–13; chair, 2013–15), Committee on Defense Materials, Manufacturing, and Infrastructure (vice chair, 2010–16), and Committee on Connector Reliability for Offshore Oil and Natural Gas Operations (chair, 2016–18).

He was quite active in other professional activities, such as ASM International, for which he chaired the Federal Affairs Committee (1997–2000) and Awards Policy Committee

(2011–18). His involvement with other professional activities included the Gordon Research Conferences, Theoretical Foundations of Product Design and Manufacturing, American Institute of Aeronautics and Astronautics, IEEE, TMS, and Air Force Scientific Advisory Board. In addition, he served on the Materials Department external advisory committees for the Ohio State University and University of Cincinnati.

In recognition of his contributions, he was elected to the NAE and designated an ASM fellow in 2013. He also received the GE Edison Award (2010) and ASM Eisenman Award for Lifetime Achievement in Materials (2014), and was inducted into the GE Aviation Propulsion Hall of Fame (2016). A research laboratory in the new OSU Biomedical Research Building is named in his honor, and in 2018 he was designated the first Presidential Distinguished Professor of Industrial, Systems, and Manufacturing Engineering, a new position at the University of Texas at Arlington.

Bob was an avid outdoorsman and became a member of an elite group of people who had climbed to the summit of all 58 of the Rocky Mountain 14,000-foot peaks. He ran the Marine Corps Marathon in Washington, DC, and the Cincinnati Flying Pig Marathon several times, and completed the RAGBRAI weeklong 468-mile bike ride across Iowa five times. He also was civic minded and chaired the Huber Heights, OH, Bicentennial Commission (1975–77).

In addition to Mary, Bob is survived by their four children, Catherine Spage, Franki, Robert Jr., and Steven, and two grandchildren.