



Sheldon Erwin Goloff

# SHELDON E. ISAKOFF

1925–2012

Elected in 1980

*“For leadership in industrial chemical engineering research,  
especially in the control of unsteady state operations.”*

BY RICHARD E. EMMERT

**S**HELDON ISAKOFF, former director of the Engineering Research and Development Division of the DuPont Company and a leading figure in engineering research in the United States, died on January 29, 2012, in Chadds Ford, Pennsylvania, at the age of 86.

Sheldon, or Shelley as his friends called him, was born in Brooklyn, New York, on May 25, 1925. He began his undergraduate career at Columbia University while in the US Navy and received a BS in chemical engineering in 1945. After completing service as an engineering officer aboard an aircraft carrier in the Pacific, he returned to Columbia and earned an MS in 1947 and a PhD in 1951, both in chemical engineering.

After serving as a guest fellow at the Brookhaven National Laboratory, Shelley began his 40-year career with the DuPont Company later in 1951 at its Engineering Research Laboratory. Early in his DuPont career, working in the laboratory's chemical engineering section, Shelley utilized both analog and digital computing (which then was in its infancy in industrial use) to advance knowledge in process dynamics and polymer processing. His research led to many patented developments that were instrumental in the processes critical to the manufacture of nylon, Dacron, Mylar, Cronar, and Lycra.

He advanced through various managerial positions to become director of the Engineering Materials Laboratory, then the Engineering Physics Laboratory, and finally the entire Engineering Research Division, which included the foregoing laboratories as well as those for Engineering Technology and Engineering Development. The engineers and scientists in these organizations spanned a wide variety of disciplines.

In this broader role, he led corporate engineering research and development for 15 years on a broad spectrum of DuPont's products and manufacturing processes. His organization developed many new business opportunities for the company in materials, electronics, and the life sciences and supported existing businesses with advances in technology for processes, mechanical equipment, instruments, and automated production systems. He retired from DuPont in March 1990.

A consummate champion of engineering and related professions, Shelley served them in many ways. He had leadership positions in several professional organizations, serving as president of the American Institute of Chemical Engineers (AIChE), chair of the board of the Chemical Heritage Foundation (CHF), and president of the United Engineering Trustees (UET). He also had advisory or governing board roles with the National Science Foundation, the American Association of Engineering Societies, the Federation of Materials Societies, the Engineering Council at Columbia University, the University of Pennsylvania Mechanical Engineering Department, the University of Delaware Research Foundation, the Chemical Engineering Advisory Board at Columbia University, and the Center for Advanced Studies at the University of Virginia.

A fellow of AIChE, he was a founder and chairman of its Materials Engineering and Sciences Division (MESD). He served on its council in the late 1970s and on its executive committee in the 1980s. He received its Founders Award for Contributions to the Profession in 1980, the Institute Lectureship in 1984, the MESD's Stine Award, the Chilton Award from the Wilmington Local Section in 1994, the Management Division Award in 1996, and the Van Antwerpen

Award for Service to the Institute in 1997. He authored a book in the AIChE monograph series, *High-Tech Materials: Challenges and Opportunities for Chemical Engineers*.

For nearly three decades, Shelley was a significant figure in the governance of CHF, joining its board in 1982, just two years after the organization was founded. He served as a director for 15 years, including three years as its chairman. He followed that with 15 years on its Heritage Council. Arnold Thackray, CHF's founder and chancellor, had these words to say upon Shelley's death: "Sheldon Isakoff, CHF's second board chair, was a gentle, thoughtful friend who yet possessed the steel of character to steer CHF through tempestuous times with skill, grace, and imagination. His presence and his crucial contributions to the foundation's growth and success will long be remembered."

After retirement from DuPont, Shelley served on the board of the UET, an organization founded at the turn of the 20th century by ASCE, AIME, ASME, IEEE, and AIChE with the support of Andrew Carnegie to support engineering and education. The UET provided central offices for these societies, operated the United Engineering Library, and provided grants in support of engineering education. He chaired that board during a time of transition to a more limited role as a grant-making organization.

Sheldon Isakoff received many honors during his lifetime, starting with his election to Tau Beta Pi and Sigma Xi when he was in college. In addition to those from AIChE mentioned earlier, he was the Regents Lecturer in Chemical Engineering at the University of California–Los Angeles in 1987, the Reilly Lecturer in Chemical Engineering at Notre Dame University in 1989, a fellow of the American Association for the Advancement of Science, and a recipient of the Columbia University Alumni Association's Egleston Medal for Distinguished Engineering Achievement in 1993. In 1996, he established the Sheldon E. Isakoff Scholarship in Chemical Engineering at Columbia.

He was elected to the National Academy of Engineering in 1980 and served on the Chemical/Petroleum Engineering Peer Committee (1982–1985), the Panel for Chemical Technology

(1983–1985), the Committee on Chemical Engineering Frontiers: Research Needs and Opportunities (1984–1988), the Awards Committee (1991–1994), the Committee on Critical Technologies: The Role of Chemistry and Chemical Engineering in Maintaining and Strengthening American Technology (1991–1992), and the Committee on Review and Assessment of Alternative Technologies for Demilitarization of Assembled Chemical Weapons (2000–2003). He also was a member of the US national committee for the International Union of Pure and Applied Chemistry (1989–1990) and of the National Materials and Manufacturing Board (1980–1982).

A personal note: I had the good fortune, beginning in 1954, to work with Shelley in many roles in DuPont, with the American Institute of Chemical Engineers, and with the Chemical Heritage Foundation. He was a kind and considerate associate and yet a forceful manager whose style was highly effective. He left an imprint in all those organizations. He will be missed.

Shelley's interests were by no means limited to chemical engineering. In the years following his retirement from DuPont, he continued to pursue lifelong interests in music, the arts, world travel, and growing both orchids and the world's tastiest tomatoes. And he always relished his role as host of the beautiful parties he and Anita, his wife of 64 years, put on year-round.

Anita passed away in 2011. Sheldon is survived by his son Peter, his daughter-in-law Jill, and his two grandchildren Nick and Emma.

