



Arthur B. Metzner

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1927–2006

Elected in 1979

“For research in the fluid mechanics of viscoelastic and polymeric materials.”

WRITTEN BY T.W. FRASER RUSSELL
SUBMITTED BY THE NAE HOME SECRETARY

AARTHUR B. METZNER, H. Fletcher Brown Professor Emeritus of Chemical Engineering, University of Delaware, died suddenly on May 4, 2006, while attending a meeting in Washington, D.C.

Born in Gravelbourg, Saskatchewan, Canada, in 1927, Arthur grew up and studied in Alberta, graduating from the University of Alberta in 1948 with a B.Sc. in chemical engineering. He received his Sc.D. in chemical engineering from Massachusetts Institute of Technology (MIT) in 1951. Although he spent nearly his entire professional career as a member of the faculty at the University of Delaware, his teaching career began with instructorships at MIT and Brooklyn Polytechnic Institute. Retiring in 1996, he continued to be active in the Department of Chemical Engineering until his death. He was a humorous, warm, yet demanding and exacting teacher; a world-renowned researcher; an editor of the *Journal of Rheology*; and a consultant to industry.

After two years at Colgate-Palmolive Company, in 1953 Art joined Allan P. Colburn, Robert L. Pigford, and others of the faculty at Delaware, bringing the department to six members. The group was very active in teaching, authoring textbooks, and conducting research all with the goal of improving the stature of the department and Art thrived in such an environment. He became a full professor in 1961 and the H. Fletcher Brown Professor in 1962. While he was department chairman from 1970 to 1978, six faculty

members were added, five books were published, and the Center for Catalytic Science and Technology was established.

Art understood that chemical engineering education was both about teaching content, and equally, if not more importantly, about teaching student skills and giving them the confidence to solve a wide range of problems. His classes were interactive, and students knew it was dangerous to come to class unprepared. Students were encouraged to participate in a variety of ways, especially by explaining their solutions to the infamously many problems he assigned. Art wanted students to gain the confidence that they could solve problems on their own and in collaboration with others. His mentoring of students in their classroom and laboratory activities continued beyond their university days, and he had a major influence on many careers, several of whom have become leaders in academia and industry.

Art's research contributions to rheology and the mechanics of non-Newtonian fluids were developed through critical experiments and innovative analysis. The papers he and his students produced were used extensively by many engineers' throughout industry and academia to solve significant problems in fluid mechanics and heat transfer in tubular and in tank-type systems.

Recognition of his contributions included his election to the National Academy of Engineering in 1979, several national awards from the American Institute of Chemical Engineers, and designation as an Eminent Member of the profession in 1983. He also received awards from the Society of Rheology (the Bingham Medal and the Distinguished Service Award), the American Chemical Society, the American Society for Engineering Education, and the University of Delaware (Francis P. Alison Award). In addition, both the Katholieke Universiteit Leuven and the University of Delaware awarded him honorary doctorates.

Professor Metzner is survived by his wife of 58 years, Elisabeth "Betty" Krüger Metzner; daughter, Elisabeth Faulkner of Charlottesville, Virginia; son, Arthur P., daughter-in-law, Yemirach, and grandson Samuel Metzner of Fort Washington, Maryland; and daughter, Rebecca Metzner, and son-in-law, R. Jeremy Clark, of Rome, Italy.

