

# **James Rutherford Fair, Jr. Biography**

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# Biography

James Rutherford Fair (born 1920) focused his education and career on chemical engineering, and was particularly interested in heat transfer and chemical reactor design. He worked in the industry for many years and later taught chemical engineering at the university level.

James Rutherford Fair was born on October 14, 1920 in Charleston, Missouri, to James Rutherford and Georgia (Case) Fair. Prior to college he studied at the Citadel between 1938 and 1940. Fair earned a bachelor's degree in chemical engineering from the Georgia Institute of Technology in 1942, a master's degree in chemical engineering from the University of Michigan in 1949, and a Ph.D. in chemical engineering from the University of Texas in 1954. He was married on January 14, 1950, to Merle Innis and fathered three children: James Rutherford III, Elizabeth, and Richard Innis.

Fair worked for Monsanto Company in Marshall, Texas as a chemist and research engineer (1942-1943), research and design engineer (1943-1945), and development associate (1945-1947). He was transferred to Texas City as a project leader and engineer (1947-1952) and St. Louis, Missouri as a research group and section leader (1956-1961), engineering manager (1961-1969), engineering director (1969-1979), and director of engineering (1969-1979). Fair also worked for the Shell Development Corporation of California as a process design engineer (1954-1956). He taught at the University of Texas in Austin as a professor of chemical engineering beginning in 1979.

## Related Activities

Fair supplemented his career with related memberships and extracurricular involvement. He served as the McKetta Centennial Energy Chair at the University of Texas in Austin beginning in 1979. Fair was an affiliated professor with Washington University from 1964-1979. He held membership in the American Chemical Society, American Institute of Chemical Engineers, American Society of Engineering Education, the National Academy of Engineering, the National Society of Professional Engineers, and the Faculty Club of the University of Texas. Fair's research focused on areas including chemical reactor design, physical separation, heat transfer equipment, and hydrocarbon pyrolysis operations. In his leisure time he enjoyed collecting books and traveling.

## Authored Books and Articles

Fair authored several books including *The North Arkansas Line* (1969), *Distillation* (1971) and *Advanced Process Engineering* (1979). He contributed more than 100 articles to professional journals and books on chemical engineering. His research focused on physical separation methods. Heat transfer, chemical reactor design, and hydrocarbon pyrolysis operations.