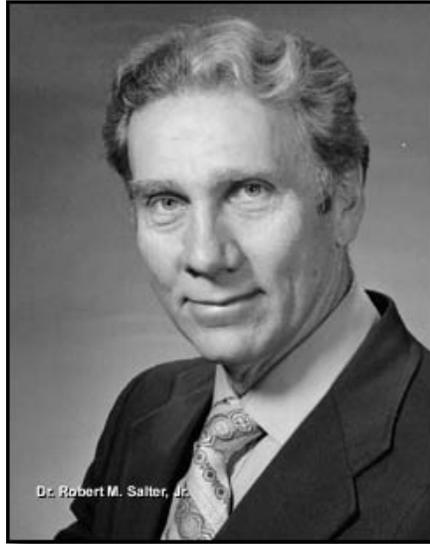


**Dr. Robert M. Salter, Jr.**  
**Inducted 1999**



Dr. Robert M. Salter, Jr., a scientist who specializes in elementary particle physics and applied physics, has made significant contributions to America's space program. He has been associated with such programs as the Kettering Missile project, the MX-770 project, RAND's Project Feedback, Pied Piper, and CORONA.

Dr. Salter was born on April 24, 1920, in Morgantown, West Virginia. He attended The Ohio State University, receiving his Bachelor's degree in mechanical engineering in 1941. He later attended the University of California, Los Angeles (UCLA), where he received a Master's degree in 1958 and a Ph.D. in Nuclear Physics in 1965.

He began his career as an intern at General Motors in 1940. Assigned to the Research Lab, Dr. Salter worked with Walter Jominy (for whom the Jominy Hardenability process was named) and participated in the development of a microwave spectrometer. In 1941, he was involved with the Kettering Missile Project, otherwise known as the Bug Project.

From 1942 to 1946, Dr. Salter served as a commissioned officer in the Bureau of Aeronautics (U.S. Navy), power plant design branch which involved work on power plants, ramjets, and missiles. During this time, Dr. Salter conceived the idea of a variable spike diffuser for supersonic flight. After leaving active duty in 1946, Dr. Salter worked as an engineer in the Aerophysics Lab at North American Aviation, Inc. until 1948. Here he was involved in developing aerothermodynamic tables and other aspects of satellite reconnaissance systems, including ascent guidance and on-orbit stabilization. He also was the liaison officer at RAND during 1947 and served as a propulsion aerodynamic specialist for the MX-770 project.

Dr. Salter left North American Aviation in 1948 to become the Director of the Rand Corporation's Project Feedback, which drew together findings from two years' study of reconnaissance satellites. The Feedback report proposed the development of an electro-optical reconnaissance satellite with a television-type imaging system. It envisioned such a system having the capability to achieve a resolution of 144 feet from an altitude of 300 miles. Dr. Salter also served as the head of the Aerothermodynamics Department at Rand from 1948 to 1954, acting as the program manager for early Air Force satellite studies including the Advanced Reconnaissance System (ARS), a 4-year successor to Feedback.

From 1954 to 1958, Dr. Salter worked with the Lockheed Missiles and Space Company as Manager of the Satellite Branch. He also managed the Pied Piper project (the precursor to the WS-117L program). During that assignment, he devised a list of military defense missions attainable by satellites: infrared missile detection; nuclear detonation detection; film recovery; special electronic intelligence; and side lobe radar schemes. Dr. Salter also was involved in the CORONA project and worked on second source ICBM parametric design studies.

Dr. Salter continued his work on the development of U.S. defense technology through the 1980s and into the 1990s, contributing to efforts such as the Strategic Defense Initiative (SDI) and other programs including free electron lasers, fusion power, electric guns, underground high speed trains, electron beam weapons, underwater autonomous sensors, and an ultra lightweight fission reactor designed for use in the antiballistic missile (ABM) program as well as future interplanetary missions to Mars. During the 1980s, he also revisited the world of reconnaissance satellites as a consultant with ITEK.

Dr. Salter has received note in the book American Men and Women of Science for his scientific efforts involving the application of advanced physics in the conceptualization of new devices in optics, electronics, and aerospace systems. He recently served as a panel member of the Space and Surface Power for the Space Exploration Initiative (SEI) Outreach Program (also known as Project Outreach). This panel evaluated submissions to Project Outreach, which included nuclear power sources, power beaming, the use of solar dynamic power, and thermal management.

Frequently recognized for his contributions to America's space program, Dr. Salter received the Space Pioneer Medal (Department of Defense) in 1985. He is also a member of the prestigious international research society, Sigma Xi, which honors Dr. Salter's scientific achievements.