

# Project Pioneer: Dr. James G. Mitchell



Growing up in Luverne, Ala., James Mitchell could not have imagined the opportunities he would later have working in the world's most dynamic test and evaluation complex.

In 1953, before graduating from Auburn University and before becoming married to his childhood sweetheart, Dr. Mitchell came to AEDC as an engineering aide who worked in the Engine Test Facility. Dr. Mitchell came back to AEDC as an Air Force lieutenant after graduating from the Air Force Institute of Technology (AFIT) at Wright-Patterson AFB, Ohio. He quickly realized the Air Force was not a career path he wanted to pursue but knew he wanted to stay at AEDC.

In 1957 he took off his uniform and joined the center's contractor, ARO, as a project engineer working in von Kármán Gas Dynamics Facility (VKF) Tunnel B. He later moved from the contractor work force to the Air Force civil service where he worked until 1988. During this time, he continued his education with degrees from the University of Tennessee Space Institute (UTSI) and Vanderbilt.

## Advocacy for ASTF

Dr. Mitchell said he describes himself as a risk taker and taking risks is exactly what he did. If it wasn't for his boldness and belief in aerospace technology, some of the facilities in which we work may not have come into existence.

"The most productive part of my life was when I was heading up facility planning," he explained specifically talking about his involvement with the Aeropropulsion Systems Test Facility (ASTF). "Some very good engineers with both the Air Force and contractor joined to plan a number of the facilities seen out there today: ASTF, APTU, Mark 1 and J-6; basically anything that was not part of the original plan."

According to Dr. Mitchell, from the beginning ASTF was not supported by many in Washington because it was considered too big and too expensive.

"I ended up being the guy who was given the job to go to Washington and convince the Air Force, DoD and Congress to find the funding for this facility," he said. "No one thought we would succeed, and I wasn't sure myself, but with the support of some key individuals, it all came together. At that time ASTF was the most expensive military construction program (MCP) project ever attempted. It took all of the Air Force MCP for the year and a large part of MCP from both Army and Navy."

As most engineers can attest, it takes longer to design and build a major test facility than it does to design and build the weapon system that will be tested in it. Dr. Mitchell demonstrated exceptional foresight in planning and acquiring advanced test facilities needed to keep pace with rapidly advancing aircraft, missile and space programs of the late 20th century.

## Era as Chief Scientist

"I finally got the job I wanted," Dr. Mitchell said about his promotion to chief scientist in 1984. "Back then, the chief scientist was the technical job at the center and provided opportunity to get involved in all aspects of AEDC operations."

His primary function as chief scientist was to advise and assist the commander on scientific and technical matters relating to AEDC, ranging from testing to research

programs. He also served as a liaison in technical matters with officials at all levels of government, industry, scientific and educational organizations, as well as with other countries.

In a quote from a 1984 article, Dr. Mitchell said, "I consider the chief scientist as having a kind of leavening effect. I look at the job from the view point of both the short-term and long-term technical interests of the center. A lot of technology and facility programs take a long time to mature and pay off, and it takes top level support during these programs to make sure things keep moving."

Dr. Mitchell is an internationally recognized expert in aerospace ground testing, and his advice is sought through many channels. He was a U.S. member on the propulsion and energetics panel of the NATO Advisory Group for Aerospace Research and Development (AGARD). He has chaired a NATO group through technical and political turmoil to calibrate engine test facilities in five countries. He is routinely invited to serve on and chair joint service, DoD and NASA committees to determine national test facility needs.

Years after AEDC  
After leaving AEDC, Dr. Mitchell went to work for Micro Craft Inc. from 1988 to 1998 where he served as executive vice president-chief operating officer, and came back to AEDC as president of Micro Craft Technology to operate aeronautical and space test facilities. In 1998, he started a small business, Surface Treatment Technologies Inc., which was located in the UTSI research park. The business is now located in Baltimore, Md. During the early 1990s, he served for four years on the Air Force Scientific Advisory Board, chairing a major study of the Air Force Test & Evaluation infrastructure. During his 33-year career as an Air Force officer and a civilian employee, Dr. Mitchell received several awards, including two exceptional civilian service decorations and the French government's Medaille de Aeronautique.

He is a fellow of the American Institute of Aeronautics and Astronautics and in 1983 received its ground testing award for the year's most significant contribution to aeronautical testing. He had earlier received two special awards from the Tennessee Section for outstanding accomplishments in 1969 and 1977.

In 1989, he was included in the first group to be selected as AEDC Fellows for his long-term contributions to the center and aerospace testing.

Dr. Mitchell currently works as a consultant to the Department of Defense through the Institute for Defense Analysis in Washington.

In this capacity, he is presently assisting AEDC in their hypersonic research and facility programs.



From left to right: Dr. James Mitchell, Dennis Horn, Frau Goethert, Robert Dietz and Donald Eastman were the first group to be nominated as AEDC Fellows in 1989.