

**MARY
GOLDA
ROSS**
1908-2008



**AEROSPACE
PIONEER**

In 1958, a tall, well-dressed woman appeared on the television show “What’s My Line”, completely stumping panelists attempting to guess her occupation. Her name was Mary Golda Ross, a female engineer and mathematical genius whose role in early days of spaceflight is largely unknown.

Her great grandfather, John Ross, was the chief of the Cherokees that led his people along the Trail of Tears into Oklahoma. “Gold”, as her family called her, was born in 1908 in Park Hill, the Cherokee community where her ancestors settled after their forced removal. She said her heritage contributed to her academic success, as she was brought up in the Cherokee tradition of equal education for both boys and girls.

From a young age, she loved mathematics and science. “I was the only female in my class. I sat on one side of the room and the guys on the other side of the room. I guess they didn’t want to associate with me. But I could hold my own.” She graduated from high school at sixteen and Northeastern State Teacher’s College, with a mathematics degree, at twenty. After graduation, she taught science and math to rural Oklahoma students.

When she learned she could double her salary by working for the government, she took the civil service exam. After a stint as a statistician for the Bureau of Indian Affairs, Ross moved to Colorado, where she graduated in 1938 from the University of Northern Colorado with a master’s degree in mathematics.

She moved to California in 1941, where she joined Lockheed Corporation as a mathematician and worked on the P-38 Lightning, a fighter plane that almost broke the sound barrier. After the war ended, Lockheed paid for Ross to earn qualifications in aeronautical engineering at UCLA. In 1954, Ross joined the new Missiles Systems Division at Lockheed Skunk Works, a top-secret think-tank. She was only female of the forty engineers selected.

Her work concentrated on satellite orbits and the Aegna space rocket project, which would later play a key role in Apollo missions. She also helped write NASA’s “Planetary Flight Handbook”, the agency’s comprehensive guide on space travel, and worked on preliminary concepts for flights to Mars and Venus, laying the groundwork for future missions.

After Ross retired in 1973, she dedicated the rest of her life to advocacy for Native American female engineers. She linked many of her successes to the importance that her Cherokee tribe placed on equal education – and the rich heritage of the Cherokee people.

In 2004, the Smithsonian Museum of the American Indian opened in Washington DC. Ross wore her ancestral dress in the procession to the museum, with the largest gathering of Native Americans in history. Ross died at age 99 in April 2008. She left a bequest of over \$400,000 to the museum to continue the ongoing story of the American Indian. In August 2018, her life’s work as an aerospace pioneer was rediscovered when she was honored with a Google Doodle.