Robert Goddard.

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- **Born:** October 5, 1882
- **Birthplace:** Worcester, Massachusetts
- **Died:** August 10, 1945
- **Place of death:** Baltimore, Maryland

Robert Hutchings Goddard was a famous American physicist who created all of the basic parts of today's rocket. He is most famous for inventing the first liquid-fuel rocket.

Robert H. Goddard with a 1926 rocket model Library of Congress

Goddard was born on October 5, 1882, in Worcester, Massachusetts. He grew up during a time of great change. In his own home his father was outfitting the house with incandescent lights and phonographs. Out in the city itself the trolley cars were moving underground to form some of the first subways.

With an already growing interest in electricity and such machinery, at the age of 16 Goddard read the book, *War of the Worlds* , by H. G. Wells. He was fascinated by the aliens in the book as well as the fact that they crossed 14 million miles of space to come to earth.

This book made Goddard begin to dream of sending men into space. On October 19, 1899, a day he later called his "Anniversary Day," Goddard climbed a cherry tree, stared into the sky, and decided that he would make this sort of space travel possible.

After he graduated from high school, Goddard went to college at the Worcester Polytechnic Institute where he studied physics and mechanics.

While in school, he made a plan that allowed a car to travel at very fast speeds inside of a sealed vacuum (a space with no air in it). The car moved by strong attractions and repulsions of electromagnets .

In 1911, Goddard got his PhD at Clark University in Worcester, Massachusetts. He then began teaching physics there while experimenting with the principles of thrust and energy .

Goddard also began to study liquid propelled engines concluding that liquid hydrogen and liquid oxygen would be the ideal combination for a propellant.

During this time, Goddard even tested some simple powder rockets. The results of these flights suggested that more elaborate tests were possible, but he did not have the money to conduct them.

In 1916, Goddard wrote to the Smithsonian Institute in Washington, DC, asking for a grant to continue his research. He was delighted to receive $5,000 in January of 1917 because now he was able to begin his work in earnest.

World War I changed Goddard's plans for the moment. Goddard went to California to work for the military designing rockets. During his time there he came up with the forerunner of the bazooka which was used in World War II.

After the war, Goddard resumed his rocket experiments. On March 16, 1926, Goddard conducted his most famous experiment on his Aunt Effie's farm in Auburn, Massachusetts. It was there that he successfully launched the world's first liquid-fuel rocket.

The rocket he had invented was very simple. It was only 10 feet tall and ran on gasoline and liquid oxygen. The rocket only traveled 184 feet in 2.5 seconds, but it was a great breakthrough in rocketry.

The success of his launch caused the shy inventor to get national attention. In November of 1929, famous aviator Colonel Charles A. Lindbergh came to visit Goddard. Colonel Lindbergh was fascinated by what Goddard was doing and was impressed by the potential that rockets had.

Lindbergh arranged for Goddard to receive a $50,000 grant from the Daniel Guggenheim Fund for the Promotion of Aviation.

Because Massachusetts was proving to be too small for what he wanted to do, Goddard used his new funds to move to Roswell, New Mexico.

During the 1930s and early 1940s, Goddard continued experimenting in Roswell. It was there that Goddard shot the first rocket to travel faster than the speed of sound. He also made a steering machine and fuel pumps for rockets. In 1941, he launched a 22 feet-tall rocket that went 10,000 feet in the air.

During World War II , Goddard left Roswell to work for the Navy in Annapolis, Maryland. He helped the military create rocket-boosted airplanes. The idea was that rockets would assist the plane in taking off, assuring speed in its flight. Goddard died of throat cancer on August 10, 1945, while still in Maryland.

Goddard was nicknamed "Moony" for his ideas about sending rockets to the moon. These ideas led "Moony" to be granted 214 patents . However, during World War II the United States government had allowed Germany to take his ideas. In 1960, fifteen years after Goddard's death, the U.S. government gave Goddard's family one million dollars for its mistakes.

Many buildings have been named after Goddard in honor of his contributions to science. The Goddard Memorial Library at Clark University was named for him. Also, the National Aeronautics and Space Administration built the Goddard Space Flight Center in Greenbelt, Maryland in his name.

Goddard's Inventions Include:

- first liquid-fuel rocket
- first rocket to fly faster than the speed of sound
- steering system for rockets
- fuel pumps for rockets

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