

Robert Hutchings Goddard

Birth: October 5, 1882, in Worcester, Massachusetts

Death: August 10, 1945

Profession(s): Rocket engineer, teacher

Publications: *A Method of Reaching Extreme Altitudes* (1919), *Liquid Propellant Rocket Development* (1936)

Remembered for: One of the fathers of rocketry and astronautics, along with Tsiolkovsky and Oberth

Quotation: "Every vision is a joke until the first man accomplishes it."

A Closer Look:

Robert H. Goddard became interested in science at the age of five. He dreamed of rockets, and his fascination with flight remained with him throughout his life. In 1914 he came up with the idea of building a rocket while watching people launch fireworks. Throughout his life, he referred to his "Anniversary Day," a day on which he dedicated his life to the development of attaining great heights and building space vehicles. This day was based on his experience on October 19, 1899, when at the age of 17, Goddard climbed a cherry tree in the back yard of his family's home. As he looked up to the evening sky, he thought of building a device that might reach the moon, or even Mars. He had recently read H.G. Wells' *War of the Worlds*, which had spurred his interest in planetary discovery. When he climbed down from the tree, he was filled with a sense of purpose in life.

Goddard earned a Bachelor of Science degree from Worcester Polytechnic Institute in 1908 and became an instructor of physics there that same year. In 1912 Goddard first explored the practicality of using rocket power to reach high altitudes. He developed fundamental concepts for liquid-fueled rockets that continue to be used in space vehicles today.

Goddard found that experimenting with rocketry was expensive. At a time when his teaching earned him a meager \$1,000 per year salary, he applied for and was awarded a \$5,000 rocket research grant by the Smithsonian Institution. Goddard distinguished himself in his career through applied research and development of rocketry. His first rocket was launched on March 16, 1926 after five years of development. It was 15 feet tall and when launched, went 41 feet into the air. It traveled 184 feet before it fell back to the Earth. This event has been called the Kitty Hawk of rocketry.

Goddard went on to further develop his theories, and is credited with pioneering efforts that eventually led to 214 patents for rocket components. Much of his life, he was regarded with skepticism in the United States and his work received little attention. Goddard died of throat cancer in 1945. Although the Russian Tsiolkovsky and the Romanian Oberth conducted similar research and arrived at similar conclusions, there is no evidence that each knew details of the other's work. Therefore, all three of these scientists share the title of father of rocketry.

References

<http://nt.lhric.org/2025/space/goddard3.htm> Biography and photo of Goddard.

<http://www.clarku.edu/goddardfolder/goddard.html> Biography and quotes from Goddard.

<http://www.nameinspace.com/history/june/june.html> History of rocketry and information about Jules Verne, Hermann Oberth, K. E. Tsiolkovsky, and Werner von Braun—mainly about Robert Goddard.

<http://www.phy.mtu.edu/apod/ap970615.html> Astronomy Picture of the Day for June 15, 1997, of Goddard and his rockets—includes a short biography.

<http://www.spacevoyages.com/visans1.html> Biography shows Goddard's source of inspiration and includes a discussion of the use of his ideas during World War II in Germany rather than in the US.

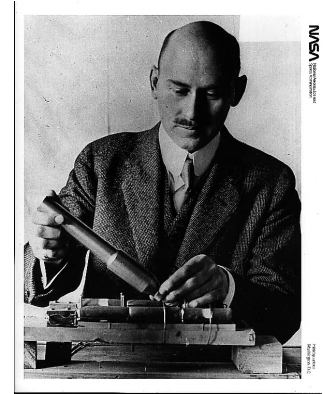


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