

# The Clerk's Black History Series

## Debra DeBerry Clerk of Superior Court DeKalb County



## Dr. George Robert Carruthers

(October 1, 1939 - )

"Invented the Ultraviolet Camera/Spectrograph for NASA"  
"Award Winning Physicist, and Space Scientist"

**George Robert Carruthers** was born on October 1, 1939, in Cincinnati, Ohio, the eldest of George and Sophia Carruthers. George Carruthers, Sr., who died when his son was 12 years old, was a civil engineer with the U.S. Army Air Corps, and encouraged his son's early interests in science. After his father's death, the family moved to his mother's hometown of Chicago. There George spent a lot of time in the Chicago libraries and museums and in the Adler Planetarium. He joined various science clubs and was a member of the Chicago Rocket Society. As one of only a handful of African-Americans competing in Chicago's high school science fairs, he won three awards, including first prize for a telescope he designed and built. In 1957, George graduated from Chicago's Englewood High School and entered the engineering program at the University of Illinois' Champaign - Urbana campus, focusing on aerospace engineering and astronomy.

George earned a Bachelor's Degree in Physics in 1961, a Master's Degree in Nuclear Engineering in 1962, and a Ph.D. in Aeronautical and Astronautical Engineering in 1964. He went to work for the U.S. Naval Research Laboratory as a National Science Foundation postdoctoral fellow. Two years later he became a full-time research physicist at the NRL's E. O. Hurlburt Center for Space Research.

On November 11, 1969, Dr. Carruthers was awarded a patent for his "Image Converter for Detecting Electromagnetic Radiation Especially in Short Wave Lengths." During a 1970 rocket flight, his UV telescope, or "spectrograph," provided the first proof of the existence of molecular hydrogen in interstellar space. The invention was used again on April 21, 1972, during the first lunar walk of the Apollo 16 mission. The 50 lbs., gold-plated camera system was able to record radiation existing in the upper half of the ultraviolet system of the atmosphere. For the first time, scientists were able to examine the Earth's atmosphere for concentrations of pollutants, and see UV images of more than 550 stars, nebulae and galaxies. Dr. Carruthers was awarded NASA's Exceptional Scientific Achievement Medal for his work on the project.

In the 1980s, one of his inventions captured an ultraviolet image of Halley's Comet and in 1991, he invented a camera that was used in the Space Shuttle Mission. Dr. Carruthers also helped create a program called the *Science & Engineers Apprentice Program*, which gave high school students the opportunity to work at the Naval Research Laboratory. In 1996 and 1997, he taught a course in *Earth and Space Science* for D.C. Public Schools Science teachers. Then, in 2002, George began teaching a course on Earth and Space Science at Howard University.

In 2003, he was inducted into the National Inventor's Hall of Fame for his work in science and engineering. On February 12, 2009, George Carruthers was honored as a Distinguished Lecturer at the Office of Naval Research for his achievements in the field of space science. On February 1, 2013, Dr. Carruthers was awarded the 2012 National Medal of Technology and Innovation by President Barack Obama at the White House.

He is a member of the American Astronomical Society, the American Geophysical Union, the American Institute of Aeronautics and Astronautics, the American Association for the Advancement of Science and the National Society of Black Physicists.

Dr. George Robert Carruthers lives a quiet, private life in Washington, DC.

