

Dr. Marie Maynard Daly: The First African-American PhD. in Chemistry



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April 16, 1921, Marie Maynard Daly was born in Queens, New York to parents Ivan Daly and Helen Page. Her father was a postal clerk from the British West Indies and her mother was a native of New York. Marie was inspired by her father who attended Cornell University and studied chemistry but did not graduate because of financial trouble. She was also inspired by her grandfather's extensive library where she was able to read about science and famous scientist. Her love for reading led her to read the book *The Microbe Hunters* by Paul de Kruif, a book that helped her make her decision on what she wanted to pursue professionally. Marie attended Hunter College High School, an all-girls magnet school for gifted young girls. After graduating Hunter College High School she attended Queens College in Flushing, New York. In 1942, she graduated Queens College magna cum laude with a degree in chemistry and was named the Queens College Scholar. Her next step was earning her master's degree from New York University in 1943; she also worked as a laboratory assistant at Queens College to make a living. After working as a laboratory assistant she would work as a chemistry tutor as she pursued her doctoral degree from Columbia University.

While working on her doctorate Marie was supervised by Dr. Mary L. Caldwell, who holds a

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doctorate in nutrition; with the help of Dr. Caldwell Marie was able to learn how the body produced chemicals to digest food. In 1947, Marie was able to successfully complete her thesis titled "A Study of the Products Formed By the Action of Pancreatic Amylase on Corn Starch", and earned her PhD. in chemistry; Marie Daly became the first African-America woman to earn a PhD. in chemistry. From 1947 to 1948 Marie worked as a physical science instructor at Howard University while conducting research with Herman Branson on the side. She was awarded an American Cancer Society grant to help her conduct postdoctoral research; her research led her to joining Dr. A.E. Mirsky at the Rockefeller Institute to study the cell nucleus. At the institute Marie was able to determine the base compositions of the deoxyribose nucleic acids present by studying the nuclei of a cell. She explored the cytoplasmic ribonucleoprotein and how it played a role in protein synthesis, she was also able to use mice to study how protein metabolism differed between fasting and eating conditions.

Daly's fortunes changed in 1953 when an abundance of funding was available for the research she was conducting. She began working with Dr. Quentin B. Deming to study the effects of aging, hypertension and atherosclerosis on the wall of an artery. She became an assistant professor of biochemistry and medicine at Albert Einstein College of Medicine at Yeshiva University. Daly had a passion for teaching and was adamant about helping to increase the number of black youth interested and attending medical school. Daly had an interest in learning how hypertension affected a person's circulatory system, her interest helped her to serve as an investigator for the American Heart Association. She researched the effects of smoking on the lungs and served as a member of the prestigious board of governors of the New York Academy of Sciences. She received awards from American Association for the Advancement of Science, New York Academy of Sciences, and Council on Arteriosclerosis of the American Heart Association. She received a designation of a career scientist by the Health Research Council of the City of New York before her retirement in 1986. In 1988, she created a scholarship for African American students majoring in chemistry and physics at Queens College, in memory of her father. In 1999, she became one of the top 50 women in science, engineering and technology, a title given to her by the National Technical Association. On October 28, 2003 Daly died at the age of 82 as the first African-American woman in history to earn a PhD. in chemistry. Dr. Marie Maynard Daly, we proudly stand on your shoulders.

J.A. Ward

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