

THE WOMEN BEHIND HIDDEN FIGURES

MARGOT LEE SHETTERLY'S BOOK TURNED FILM

HISTORICAL BACKGROUND

In 2016, Margot Lee Shetterly published Hidden Figures, a book about three female, African-American mathematicians who worked at NASA during the space race. The biographical text takes place from the 1930s through the 1960s and follows the lives of Katherine Johnson, Dorothy Vaughan, and Mary Jackson, "human computers" who overcome race and gender discrimination to become leaders in the space program.

After World War II began, there was a shortage of male mathematicians. Though some people at that time in history considered women to be inferior to men, federal agencies and defense contractors across the country coped with the shortage by hiring women with math skills. In 1941, president Franklin Roosevelt signed Executive Order 8802, which created the Fair Employment Practices Committee and prohibited race-based discrimination in the defense industry. A group of African-American women were hired and formed part of NASA's work force from the 1940s through the 1960s, helping to provide the raw computing power needed for the space program.

KATHERINE JOHNSON

Johnson's calculations of orbital mechanics were critical to the success of the first (and subsequent U.S.-crewed) spaceflights. Her work included calculating trajectories, launch windows, and emergency return paths for Alan Shepard, the first American in space, and John Glenn, the first American in orbit, among others. She earned a reputation for mastering complex manual calculations during her 35-year career at NASA, and helped pioneer the use of machine computers for those calculations.



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DOROTHY VAUGHAN

Vaughan became acting, and later the official, supervisor of the West Area Computers in 1949, the first African-American woman to supervise a group of staff at Langley Research Center. The West Area Computers were a subset of the female mathematicians who were required to use segregated work areas due to Virginia's Jim Crow laws at the time. Vaughan prepared for the introduction of machine computers in the early 1960s by teaching herself, and then her staff how to program the machines over the course of her 28-year career.

MARY JACKSON

In 1951, Jackson started in the West Area Computing division. She took advanced engineering classes, and in 1958 became NASA's first Black female engineer. After 34 years at NASA, Jackson had earned the most senior engineering title possible. She accepted a demotion becoming a manager in NASA's Office of Equal Opportunity Programs and worked to influence the hiring and promotion of women.

THE FILM AND HONORS

A movie loosely based on the book was released to critical acclaim in December of 2016, winning 37 awards and being nominated for 88.

In 2019, Johnson, Vaughan, and Jackson were all awarded the Congressional Gold Medal, which along with the Presidential Medal of Freedom is the highest civilian award in the United States.

SOURCES AND TO LEARN MORE:

[Margot Lee Shetterly](#)

[The Book](#)

[Mary Jackson](#)

[Katherine Johnson](#)

[Dorothy Vaughan](#)

[Movie Trailer](#)

[The Movie](#)