

BACKGROUND ON NASA MATHEMATICIANS/ENGINEERS

KATHERINE JOHNSON, DOROTHY VAUGHN, & MARY JACKSON

	Dorothy Vaughn (1910-2008)	Katherine G. Johnson (1918 --)	Mary W. Jackson (1921-2005)
Born in	Kansas City, MO	White Sulphur Springs, WV	Hampton, VA
NASA Career	1943-1971	1953-1986	1951-1985
Education	B.A., Mathematics, Wilberforce University, Ohio 1929	B.S., Mathematics & French, West Virginia State College, 1937	B.S., Mathematics & Physical Science, Hampton Institute, VA 1942
Profession	Mathematician	Mathematician	Aeronautical engineer NASA's 1 st black female engineer
NASA Bios	<p>Dorothy Vaughan left her position as a high school math teacher in Farmville, VA to join the Langley Memorial Aeronautical Laboratory. She was assigned to the segregated "West Area Computing" unit, an all-black group of female mathematicians. Over time the West Computers distinguished themselves with contributions to virtually every area of research at Langley. She was promoted to lead the group in 1949, making her the first black supervisor, and one of the few female supervisors. She was a steadfast advocate for the women of West Computing. In 1958, segregated facilities at NASA, including the West Computing office, were abolished. She and many of the former West Computers joined the new Analysis and Computation Division (ACD), a racially and gender-integrated group on the frontier of electronic computing. Dorothy Vaughan became an expert</p>	<p>At 13, Katherine Johnson was attending high school on the campus of historically black West Virginia State College. At eighteen, she enrolled in the college itself and graduated with highest honors in 1937. She took a job teaching at a black public school in Virginia. In 1939, she became one of the first three students to integrate West Virginia University's graduate program. At the end of the first session, however, she decided to leave school to start a family with her husband. She returned to teaching when her three daughters got older. In 1952, a relative told her about open positions at the all-black West Area Computing section at the Langley laboratory, headed by Dorothy Vaughan. Johnson and her husband decided to move the family to Newport News to pursue the opportunity, and Johnson began work at Langley in the summer of 1953.</p>	<p>After graduating from college, Mary Jackson spent one year as a math teacher at a black school in Calvert County, Maryland, before returning to Virginia. She then worked as a receptionist, a bookkeeper, and an Army secretary before landing at the West Area Computing section in 1951. After two years in the computing pool, she received an offer to work for engineer Kazimierz Czarnecki in the 4-foot by 4-foot Supersonic Pressure Tunnel. Czarnecki eventually suggested that she enter a training program that would allow her to earn a promotion from mathematician to engineer. Trainees had to take graduate level math and physics in after-work courses managed by the University of Virginia. Because the classes were held at then-segregated Hampton High School, however, Jackson needed special permission from the City of Hampton to join her white peers in the classroom.</p>

	<p>FORTRAN programmer, and she also contributed to the Scout Launch Vehicle Program.</p>	<p>In 1962, as NASA prepared for the orbital mission of John Glenn, Johnson was called upon to do the work that she would become most known for, double checking the calculations of the computers for Glenn's Friendship 7 mission.</p>	<p>Jackson completed the courses, earned the promotion, and in 1958 became NASA's first black female engineer. In 1979, she accepted a demotion to fill the open position of Langley's Federal Women's Program Manager. There, she worked hard to impact the hiring and promotion of the next generation of all of NASA's female mathematicians, engineers and scientists.</p>
<p>Recognitions</p>		<p>In 2015, President Obama awarded Johnson the Presidential Medal of Freedom, America's highest civilian honor.</p> <p>In 2016, NASA dedicated a new Katherine G. Johnson Computational Research Facility at the Langley Research Center. Sen. Mark Warner and Governor Terry McAuliffe were among the dignitaries honoring her at the formal opening on September 22, 2017.</p>	<p>Apollo Group Achievement Award Langley's Volunteer of the Year in 1976. Girl Scout troop leader for more than three decades.</p>