

# Finding Aid to The HistoryMakers® Video Oral History with Katherine G. Johnson

---

## Overview of the Collection

<b>Repository:</b>	The HistoryMakers®1900 S. Michigan Avenue Chicago, Illinois 60616 info@thehistorymakers.com www.thehistorymakers.com
<b>Creator:</b>	Johnson, Katherine G.
<b>Title:</b>	The HistoryMakers® Video Oral History Interview with Katherine G. Johnson,
<b>Dates:</b>	February 6, 2012
<b>Bulk Dates:</b>	2012
<b>Physical Description:</b>	5 uncompressed MOV digital video files (2:37:29).
<b>Abstract:</b>	Computer scientist Katherine G. Johnson (1918 - 2020) worked for National Aeronautics and Space Administration (NASA) for thirty-three years, where she calculated the trajectory for John Glenn's orbit in 1962 and the Apollo 11 flight in 1969. Johnson was interviewed by The HistoryMakers® on February 6, 2012, in Hampton, Virginia. This collection is comprised of the original video footage of the interview.
<b>Identification:</b>	A2012_017
<b>Language:</b>	The interview and records are in English.

---

## Biographical Note by The HistoryMakers®

Mathematician and computer scientist Katherine Johnson was born on August 26, 1918 in White Sulphur Springs, West Virginia to Joylette and Joshua Coleman. Her mother was a teacher and her father was a farmer and janitor. From a young age, Johnson enjoyed mathematics and could easily solve mathematical equations. Her father moved Johnson's family to Institute, West Virginia, which was 125 miles away from the family home so that Johnson and her siblings could attend school. She attended West Virginia State High School and graduated from high school at age fourteen. Johnson received her B.S. degree in French and mathematics in 1932 from West Virginia State University (formerly West Virginia State College). At that time, Dr. W.W. Schiefflin Claytor, the third African American to earn a Ph.D. degree in mathematics, created a special course in analytic geometry specifically for Johnson. In 1940, she attended West Virginia University to obtain a graduate degree. Johnson was one of the first African Americans to enroll in the mathematics program. However, family issues kept her from completing the required courses.

After college, Johnson began teaching in elementary and high schools in Virginia and West Virginia. In 1953, she joined Langley Research Center (LaRC) as a research mathematician for the National Advisory Committee for Aeronautics (NACA). Johnson was assigned to the all-male flight research division. Her knowledge made her invaluable to her superiors and her assertiveness won her a spot in previously all-male meetings. NACA became the National Aeronautics and Space Administration (NASA) in 1958. Upon leaving The Flight Mechanics Branch, Johnson went on to join the Spacecraft Controls Branch where she calculated the flight trajectory for Alan Shepard, the first American to go into space in 1959. Johnson also verified the mathematics behind John Glenn's orbit around the Earth in 1962 and calculated the flight trajectory for Apollo 11's flight to the moon in 1969. She retired from NASA in 1986.

Johnson has been the recipient of NASA's Lunar Spacecraft and Operation's Group Achievement Award and NASA's Apollo Group Achievement Award. She received the NASA Langely Research Center Special

Achievement Award in 1971, 1980, 1984, 1985 and 1986. Johnson has co-authored twenty-six scientific papers and has a historically unique listing as a female co-author in a peer-reviewed NASA report. She also received an Honorary Doctor of Laws from the State University of New York in Farmingdale in 1998 and in 1999, was named Outstanding Alumnus of the Year by West Virginia State College. In 2006, Johnson was awarded an honorary Doctor of Science from Capitol College of Laurel, Maryland. Johnson lives with her husband Lt. Colonel James A. Johnson in Hampton, Virginia and has three daughters Constance, Joylette and Kathy.

Johnson passed away on February 24, 2020.

Katherine Johnson was interviewed by *The HistoryMakers* on February 6, 2012.

---

## Scope and Content

This life oral history interview with Katherine G. Johnson was conducted by Larry Crowe on February 6, 2012, in Hampton, Virginia, and was recorded on 5 uncompressed MOV digital video files. Computer scientist Katherine G. Johnson (1918 - 2020) worked for National Aeronautics and Space Administration (NASA) for thirty-three years, where she calculated the trajectory for John Glenn's orbit in 1962 and the Apollo 11 flight in 1969.

---

## Restrictions

### Restrictions on Access

Restrictions may be applied on a case-by-case basis at the discretion of The HistoryMakers®.

### Restrictions on Use

All use of materials and use credits must be pre-approved by The HistoryMakers®. Appropriate credit must be given. Copyright is held by The HistoryMakers®.

---

## Related Material

Information about the administrative functions involved in scheduling, researching, and producing the interview, as well as correspondence with the interview subject is stored electronically both on The HistoryMakers® server and in two databases maintained by The HistoryMakers®, though this information is not included in this finding aid.

---

## Controlled Access Terms

This interview collection is indexed under the following controlled access subject terms.

### Persons:

Johnson, Katherine G.

Crowe, Larry (Interviewer)

Hickey, Matthew (Videographer)

## Subjects:

African Americans--Interviews  
Johnson, Katherine G.--Interviews

---

## Organizations:

HistoryMakers® (Video oral history collection)

---

The HistoryMakers® African American Video Oral History Collection

---

National Advisory Commission for Aeronautics, National Aeronautics and Space Administration

---

## Occupations:

Computer Scientist

---

## HistoryMakers® Category:

ScienceMakers

---

## Administrative Information

### Custodial History

Interview footage was recorded by The HistoryMakers®. All rights to the interview have been transferred to The HistoryMakers® by the interview subject through a signed interview release form. Signed interview release forms have been deposited with Jenner & Block, LLP, Chicago.

### Preferred Citation

The HistoryMakers® Video Oral History Interview with Katherine G. Johnson, February 6, 2012. The HistoryMakers® African American Video Oral History Collection, 1900 S. Michigan Avenue, Chicago, Illinois.

### Processing Information

This interview collection was processed and encoded on 5/30/2023 by The HistoryMakers® staff. The finding aid was created adhering to the following standards: DACS, AACR2, and the Oral History Cataloging Manual (Matters 1995).

---

## Other Finding Aid

A Microsoft Access contact database and a FileMaker Pro tracking database, both maintained by The HistoryMakers®, keep track of the administrative functions involved in scheduling, researching, and producing the interview.

## Detailed Description of the Collection

### Series I: Original Interview Footage

Video Oral History Interview with Katherine G. Johnson, Section A2012\_017\_001\_001, TRT: 1:29:33 ?

Katherine Johnson's interview is slated and she discusses her family background. Johnson's mother, Joylette Lowe Coleman, was born in Ruffin, North Carolina in the 1890s to a seamstress mother and a minister father who died when she was young. Joylette earned her living as a teacher and seamstress. Johnson's father, Joshua McKinley Coleman, was born in White Sulphur Springs, West Virginia and worked as a farmer before taking a job at the Green Briar Hotel. Johnson grew up in White Sulphur Springs with her parents and three siblings. A well educated youngster, Johnson began school in second grade at White Sulphur Grade School followed by Bethune Elementary School. In 1928, Johnson and her mother and siblings moved to Institute, West Virginia in order to continue school, but her father stayed behind to work. Johnson remembers high school math teacher Angie Turner King as well as college math professor, Ms. Lacy.

Institute (W. Va.)

White Sulphur Springs (W. Va.)

Green Briar Hotel

West Virginia State College (Institute, W. Va.)

Video Oral History Interview with Katherine G. Johnson, Section A2012\_017\_001\_002, TRT: 2:29:00 ?

Katherine Johnson describes her high school experience both socially and academically. Living across the street from West Virginia State University, she had the opportunity to associate with many well-educated people and heard speakers such as Mordecai Johnson, Marian Anderson, Benjamin Mays, and W.E.B. DuBois. Johnson had a comfortable experience during high school and the social atmosphere in Institute, West Virginia was calm. She enjoyed skating and hiking in her free time. Johnson graduated high school in 1933 and attended West Virginia State College where she majored in French and mathematics hoping to some day become a research mathematician. She had several teaching in Virginia and met her husband, Mr. Jimmy Gobel, along the way. The couple had three daughters and in 1954, moved to Newport News, Virginia. This marked the beginning of Johnson's career with NASA, which at that time was NACA (National Advisory Committee for Aeronautics).

Du Bois, W. E. B. (William Edward Burghardt), 1868-1963.

Mays, Benjamin E. (Benjamin Elijah), 1894-1984.

West Virginia State College (Institute, W. Va.)

Davis, Sean W.

Johnson, Mordecai W. (Mordecai Wyatt), 1890-1976

Video Oral History Interview with Katherine G. Johnson, Section A2012\_017\_001\_003, TRT: 3:31:16 ?

Katherine Johnson talks about her experience working at NACA's (later NASA) Langley Research Center where segregation required separate work spaces for blacks, whites, men, and women. She started out working with other women mathematicians as a human calculator, calculating space orbits by hand. In 1957,

after the Soviet launch of Sputnik, an atmosphere of urgency took over NASA and they eventually launched their own satellite. Johnson quickly moved up to the flight mechanics branch where her responsibilities included determining the launch window for all space flights, including John Glenn's historic earth orbit in 1962. Johnson also co-authored a paper entitled Determination of azimuth angle at burnout for placing a satellite over a selected earth position, in addition to several textbooks. In 1959, Johnson remarried Lt. Col. James Johnson, a retired artillery officer. She stayed with NASA until 1987, finishing with the landmark project of space station Mir.

United States. National Aeronautics and Space Administration.

Edícia Sputnik

Mir (Space station)

Glenn, John, 1921-

Video Oral History Interview with Katherine G. Johnson, Section A2012\_017\_001\_004, TRT: 4:28:47 ?

Katherine Johnson talks about working at a time when hand most calculations were done my hand. At that time, computer calculations were not considered reliable and had to be checked by hand. The advent of computers impacted the way she worked and she was able to integrate them into her processes. Johnson talks about her greatest achievement: computing the trajectory for a round trip flight to the moon. Johnson also comments on the confidential nature of her work and public skepticism about space travel. While she was the only African American on her team, Johnson interacted with other African Americans at NASA. She met several astronauts, including Mae Jemison and Leland Melvin.

Computers.

Jemison, Mae, 1956-

Bolden, Charles, 1946-

Video Oral History Interview with Katherine G. Johnson, Section A2012\_017\_001\_005, TRT: 5:38:53 ?

Katherine Johnson talks about her family. She has three daughters and six grandchildren. Johnson discusses her hopes and concerns for the future and talks about how she would like to be remembered. She also describes her photos.