

Stars of the Space Race B1



Yuri Gagarin, Neil Armstrong, John Glenn, Alan Shepard... the names of the first cosmonauts and astronauts are remembered as the heroes of the Space Race between the Soviet Union and the U.S.A. in the 1960s. But what about the thousands of scientists who invented the machines that carried them into orbit? A new film looks at three of these hidden heroes... or heroines.



Taraji P Henson (*Empire*) plays Katherine Johnson, a maths prodigy who went to high school at age 10, and finished university at 18!

In the early 1960s, NASA was the coolest place to work in the U.S.A. Developing space travel before the Soviets was a patriotic mission. It was the space age.

But if you were a woman, or African American, many of those cool jobs were closed to you. Women were generally discouraged from studying maths and science. If they did, they had difficulties getting jobs that used their qualifications. NASA's main development centre



Octavia Spencer (who received an Oscar for *The Help*), plays Dorothy Vaughan, who started working as a mathematician for NASA during World War Two. She supervised the team of African American human computers.

was in Langley, Virginia, a state that still practised racial segregation: African Americans couldn't go to the same schools, live in the same parts of town, or use the same public services as white citizens.

All the astronauts were men, and white. But the team that made the space rockets was more diverse. *Hidden Figures* tells the story of a group of women who made a major contribution. Until now, their story has not been told.

Human Computers

There were no computers when NASA started its space programme. All the complicated maths calculations were done by humans. NASA had teams of mathematicians they called human computers. And many of them were women. Because of Virginia's racial segregation, there was a team of white women and a team of black women.

Hidden Figures tells the story of three of the African-American women, Katherine Johnson, Dorothy Vaughan and Mary Jackson. In a sense they were part of an elite working team, but when they left the NASA base, or went to the canteen, they were discriminated against because they were black. But the film also shows how some people at NASA recognised their talent. The astronaut John Glenn, the first American to go into orbit, refused to go into space until Katherine Johnson checked all the calculations.



Pop singer Janelle Monáe was in her first two films this year, *Hidden Figures* and *Moonlight*. Both films were nominated for Oscars. She plays Mary Jackson, who fought for the possibility to become an aeronautical engineer.

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The film isn't a political pamphlet: there are lots of emotions and some great scenes in the women's home lives. There is lots of humour too – inspired by the real women. The only one of the trio who is alive today is Katherine Johnson. She says she is surprised by the interest people are suddenly taking in her career. She says, "Like anyone, I just solved problems that needed solved. Any problem can be solved by a woman, or by a man if you give him lots of time." ■



Pharrell Williams decided to invest in the film as a producer. He says, "I've been fascinated by NASA since I was a child, because I grew up close to Langley. This story really interested me because it's about science, exceptional women, African-American women, the 1960s and space".

Star Wars

After World War Two, a new war started, the Cold War, between two groups of countries: the communist countries led by the Soviet Union; and the Western, capitalist countries including many European countries and the U.S.A. Each group, or bloc, represented a political vision of how to organise society.

The Cold War wasn't as lethal as WW2. The two superpowers tried to show they were superior in lots of domains. There was fierce competition to show technical superiority. And the biggest technical challenge of the time was exploring a new frontier: space.

The Space Race

The Soviets had early victories in the space race. They successfully launched the first satellite, Sputnik, in 1957. Then a dog in a spacecraft the same year. In 1961, they also sent the first man to space, Yuri Gagarin.

The Americans also sent a man on a suborbital voyage in 1961, Alan Shepard. Then John Glenn went out of the Earth's atmosphere in 1962, and orbited three times. Finally, in 1969, NASA sent two men to the Moon: Neil Armstrong and Buzz Aldrin.



John Glenn played by Glen Powell