

### Biography of Kalpana Chawla

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Kalpana Chawla was born on the **1st of July, 1961** in a small town in **Karnal** located in the state of **Haryana**. Her parents, **Banarasi Lal Chawla and Sanjyothi** had two other daughters named Sunita and Deepa and a son named Sanjay. Kalpana was the youngest in her family and hence, she was the most pampered too.

She got educated at the **Tagore Public School** and later enrolled into **Punjab engineering College** to complete her **Aeronautical Engineering** Degree in 1982. In the same year, she moved to the US. She got married to **Jean-Pierre Harrison** in 1983. He was her flying instructor and an aviation author.

In 1984, she completed her **M.S.** in **Aerospace Engineering** from the **University of Texas in Arlington**. In 1988, she obtained a **Ph.D.** in the same subject from the **University of Colorado at Boulder**.

Kalpana Chawla was a certified flight instructor who rated aircrafts and gilders. She also held a commercial pilot license for single and multi-engine airplanes, hydroplanes and gliders. Kalpana was a licensed Technician class Amateur Radio person certified by the Federal Communication commission. Owing to her multiple degrees in Aerospace, she got a job in NASA as the **Vice President of the Overset Methods, Inc. in 1993**. She was extensively involved in computational fluid dynamics research on Vertical/Short Takeoff and Landing. It was not until 1995 that she became a part of the NASA 'Astronaut Corps'.

Three years later, she was selected for her first mission i.e. to travel around the Earth in a space shuttle. This operation consisted of six other members. Kalpana was responsible for organizing the Spartan Satellite but she was unsuccessful in her role due to its malfunction. It was found that due to technical errors, the satellite defied control of ground staff and flight crew members. Following this, she was vindicated.

On the other hand, Kalpana Chawla created history for being the first Indian woman to travel in a space shuttle. She had the privilege of journeying as far as **10.4 million km**. This approximately adds up to **252 times** around the Earth's orbit that comprised of **372 hours in space**.

After the Spartan Satellite incident, she was given a technical position. Her excellent work was recognized and awarded. In 2000, she was again assigned on her second flight mission as a part of Flight **STS-107**. Kalpana's responsibility included microgravity experiments. Along with her



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team members, she undertook a detailed research on advanced technology development, astronaut health & safety, the study of Earth and space science. During the course of this mission, there were several mishaps and cracks were detected in the shuttle engine flow liners. This delayed the project until 2003.

#### **Death**

It was on **February 1st 2003** that the space shuttle, STS-107, collapsed over the Texas region when it re-entered the Earth's atmosphere. This unfortunate event ended the lives of seven crew members including Kalpana.

#### **Flight Events**

**1997:** Her first mission on Flight **STS-87** took place.

**2000:** Assigned on her second mission as part of Flight STS-107.

**2003:** Chawla got a second chance for the mission on Flight STS-107. On February 1st, she died when the space shuttle broke down.

#### **Achievements and Accolades**

During her lifetime, Kalpana Chawla was awarded with three awards namely the Congressional Space Medal of Honor, NASA Space Flight Medal and the NASA Distinguished Service Medal.

#### **Memorials**

The **Kalpana Chawla ISU Scholarship fund** was founded by alumni of the International Space University (**ISU**) in 2010 to support **Indian student participation** in international space education programs.

The **Kalpana Chawla Memorial Scholarship** program was instituted by the Indian Students Association (**ISA**) at the University of Texas at El Paso (UTEP) in 2005 for **meritorious** graduate students.

The Kalpana Chawla Outstanding Recent Alumni Award at the University of Colorado, given since 1983, was renamed for Chawla.

The Kalpana Chawla Medical College foundation stone of was laid November 18, 2013 in her memory by the state government.

Asteroid 51826 Kalpanachawla, one of seven named after the Columbia's crew.

On February 5, 2003, India's prime minister announced that the meteorological series of satellites, **MetSat**, was to be renamed as "**Kalpana**". The first satellite of the series, "MetSat-1",



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launched by India on September 12, 2002, is now known as "Kalpana-1". "Kalpana-2" was expected to be launched by 2007.

74th Street in Jackson Heights, Queens, New York City has been renamed 74th Street Kalpana Chawla Way in her honor.

The University of Texas at Arlington, where Chawla obtained a Master of Science degree in aerospace engineering in 1984, opened a dormitory named Kalpana Chawla Hall in 2004.

The Kalpana Chawla Award was instituted by the government of Karnataka in 2004 for young women scientists.

The girls' hostel at Punjab Engineering College is named after Chawla. In addition, an award of INR twenty-five thousand, a medal, and a certificate is instituted for the best student in the Aeronautical Engineering department.

NASA has dedicated a supercomputer to Chawla.

One of Florida Institute of Technology's student apartment complexes, Columbia Village Suites, has halls named after each of the astronauts, including Chawla.

The NASA Mars Exploration Rover mission has named seven peaks in a chain of hills, named the Columbia Hills, after each of the seven astronauts lost in the Columbia shuttle disaster. One of them is Chawla Hill, named after Chawla.

Steve Morse from the band Deep Purple created the song "Contact Lost" in memory of the Columbia tragedy along with her interest in the band. The song can be found on the album *Bananas*.

The University of Texas at Arlington dedicated the Kalpana Chawla Memorial on May 3, 2010, in Nedderman Hall, one of the primary buildings in the College of Engineering.

The Government of Haryana established the **Kalpana Chawla Planetarium in Jyotisar**, **Kurukshetra**.

The Indian Institute of Technology, Kharagpur, named the Kalpana Chawla Space Technology Cell in her honor.

A military housing development at Naval Air Station Patuxent River, Maryland, has been named Columbia Colony, and includes a street named Chawla Way.



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