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PROFILE

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Kalpana Chawla to be first Asian woman astronaut on the Space Shuttle

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Who would have thought that a young Indian girl with her feet firmly on the ground would one day fly into the heavens? While for most people outer space is uncharted territory, for Dr. Kalpana Chawla, it is reality, a place she will surely find herself visiting in the next few years. The 34-year-old Indian-American came a bit closer to her goal when she graduated from NASA's astronaut training program in 1995 along with 22 other trainees, including five women. When she applied to the NASA program, there were 2,000 candidates, out of which only 23 were chosen. She is the first Asian woman astronaut.

Chawla is scheduled to blast off in October, 1997, on board the shuttle Columbia. During 16 days in orbit, the specialists will study the affects of microgravity on a variety of materials, focusing on how materials, including metal and crystals, solidify when removed from the distorting affects of gravity. Takao Doi, the first Japanese astronaut, will conduct a space walk.

"The training was really exciting, a lot of fun. In fact, it would be hard to top the experience!" says the effervescent, petite astronaut who looks far too young to hold a doctorate. She told India West that the NASA doctor who interviewed her after an x-ray asked if she was a vegetarian. When she said she always had been, the doctor told her with a grin that he knew that to be the case because, "everything inside is so clean."

A native of Karnal, India, and now an American citizen, she has a bachelor of science degree in aeronautical engineering from Punjab Engineering College and a master of science degree in aerospace engineering from University of Texas. In 1988 she earned a doctorate in aerospace engineering from the University of Colorado.

For 14 months, Chawla and her fellow trainees underwent rigorous training at the Johnson Space Center in Houston, Texas, working with mock-up shuttles, motion-base simulators, T-38 jets and parasails. They also experienced survival training on land and water, in Florida. Says Chawla: "A lot of our training was finding malfunctions and learning survival skills. We had a simulator of the space shuttle cockpit where all the switch layouts and the displays are identical to the real thing."

Also memorable was the water survival training which prepares astronauts for mishaps if they land in the water. The trainees were launched from the deck of a boat by parachute. After landing in the water, they had to wait for the rescuers to turn up. Chawla said, "They don't tell you when they'll come, but you know at the end of the day someone will get you."

So, while most Indian women are Earth-bound, how is Kalpana Chawla daring to reach for the skies and beyond, especially given her very traditional family background? Her father, Banarsi Lal, is a businessman and her mother, Syongita, a housewife. Coming from a conservative background, they were not keen for her to go to the US. Yet, as Chawla explains about her family, they have retained the best of old values while remaining open to the new. She says, "They are conservative, but in a strange way. I think they are very different from lots of other parents. For example, my father never gave me a hard time on career choices. There was no, 'No, absolutely not.' You could always say, 'But--I want to do it.' If you said it enough times, then you would have it. I think in families that are truly conservative, you don't even dare ask."

Indeed, Chawla has always marched to the beat of her own drummer. A passionate flyer, she holds commercial pilot's licenses for single and multi-engine airplanes and single-engine seaplanes, and enjoys flying aerobatics and tail-wheel airplanes.

She believes that mothers, even those living in a traditional society, can make things easier for their daughters by not pressing them to conform to society's norms. Says Chawla: "I think I wouldn't even call my mom conservative, though she is from a conservative family, and I think everyone thinks of her that way. But as far back as I can remember, she's always said that you really must do what pleases you." Once in the US, Chawla was able to map out a path to her goals. She was hired by MCAT Institute, San Jose, California, as a scientist to support research in the area of powered lift at NASA Ames Research Center, California, in 1988. She was responsible for simulation

and analysis of flow physics pertaining to the operation of powered-lift aircraft such as the Harrier in ground effect.

When you come from a certain background in India, when you reach the right age, you are expected to have an arranged marriage and do things the way they are done in the community. Chawla, however, found and married her own man, American flying instructor Jean Pierre Harrison, who shares her passion for flying.

Kalpana Chawla has successfully blended her Indian values with her Western education. She didn't have any role models in the workplace while growing up, so how did she believe enough in herself to go in for something which was considered totally a man's job? She says, "I honestly didn't think of it that way. When I joined engineering, there were only seven girls in the whole engineering college. I was the first girl to go into aerospace engineering. The department chair kept trying to channel me into electrical or mechanical, and I thought this is weird, why is he trying to do that?" Finally, the professor got the message that she was determined to pursue aerospace engineering, and he would tell his other students, all males, "She's here because this is what she wants to do." She adds, "That's the message I'd want to give other women: do something because you really want to do it. So even if it is a goal which is not necessarily within reach--it may be something which only a handful can do--but if you really like what you do, then you've never really lost anything. But if you're doing it just for the goal, and don't enjoy the path, then I think you're cheating yourself.

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