

In Conversation With

# “Dream, Dare and Defy” Nigar Shaji, a renowned space scientist

Interviewed by Meher Wan



**N**IGAR Shaji, an accomplished Indian space scientist of the Indian Space Research Organisation (ISRO). Hailing from Sengottai, a small town in Tamil Nadu, her journey from modest beginnings to the forefront of India's space exploration exemplifies the transformative power of education and ambition. A graduate in Electronics and Communications Engineering from the Government College of Engineering, Tirunelveli, and later a postgraduate in Electronics from Birla Institute of Technology, Mesra, Nigar Shaji joined ISRO in 1987.

Over the decades, she has played a crucial role in numerous satellite missions, steadily rising through the ranks with her technical acumen and leadership skills. Her most celebrated achievement is her role as the Project Director of Aditya-L1, India's first dedicated solar mission. Under her guidance, the mission was successfully launched on 2 September 2023, marking a significant milestone in India's space journey by placing a spacecraft in a halo orbit around the Lagrange Point 1 (L1), about 1.5 million kilometres from Earth. This mission aims to study solar activities and their effects on space weather in real-time, which has profound implications for satellite-based communication and power grids on Earth.

Nigar Shaji's leadership in this complex and ambitious mission reflects not only her technical brilliance but also her ability to coordinate large, multidisciplinary teams. As one of the few women to have helmed a major Indian space mission, Nigar Shaji also represents the increasing participation and visibility of women in STEM fields in India, breaking stereotypes and inspiring a new generation of scientists. In this interview, Dr Meher Wan explores the scientific journey of Ms Nigar Shaji and beyond.

**Meher Wan:** Please, share a bit about your early life and what inspired you to pursue a career in space science and engineering?

**Nigar Shaji:** It is my father who inculcated in me the interest in science in my early years of life. He is a graduate in mathematics, and he used to tell me stories about Nobel Laureates, especially about Madame Curie and explain the scientific reasoning for life events. I was interested in pursuing a career in science and technology, not specifically in space science and engineering. After my graduation, and when I was in pursuit of a career, I got an opportunity to have a career in spacecraft technology. After joining the Indian Space Research Organisation, I got interested in spacecraft technology and continued my career in that field.

**Meher Wan:** What were some of the biggest challenges you faced as a woman in the field of space research, and how did you overcome them?

**Nigar Shaji:** Fortunately, in ISRO weightage is given more to

your technical acumen and capabilities rather than gender. As a woman, I need to put in extra effort in managing the home and career responsibilities. I could manage that efficiently because of the family support, especially my mother.

**Meher Wan:** Let us know about your childhood and education. Who were your role models or mentors during your academic and professional journey?

**Nigar Shaji:** I hail from a small town Sengottai in southern part of Tamilnadu. Had my primary and secondary education from Government schools in my native town. During school days, my role model was Madame Curie, and I wanted to pursue Physics. All my school teachers are my mentors. Later, my interest shifted to Technology as there were very few women pursuing engineering at that point of time, i.e. in the Eighties. I did my engineering (BE) in Electronics and Communication Engineering from the Government College of Engineering, Tirunelveli, Tamil Nadu. I did my Master's (ME) while working in ISRO, at Birla Institute of Technology,