

WOMEN IN SPACE



Breaking Barriers: The Role of Women in Advancing Space Science and Technology

In the ever-evolving realm of Space Science and Technology (SST), one truth has become increasingly clear: women are not just participants—they are pioneers, innovators, and leaders.

For decades, the field of space technology has been predominantly male-dominated. Yet, behind many of the most groundbreaking milestones in global and local space history are exceptional women whose stories deserve celebration. From launching satellites to leading innovations in geospatial intelligence, women continue to redefine the boundaries of possibility in SST.

Global Trailblazers in Space Exploration

The journey began with women like Valentina Tereshkova, who became the first woman in space in 1963. Her solo orbital mission aboard VOSTOK-6 proved that women could endure the rigors of space travel and inspired generations to come. Later, computer scientist Margaret Hamilton played a pivotal role in the success of NASA's Apollo missions, developing onboard software that safely guided astronauts to the Moon.

More recently, Sunita Williams, a record-breaking astronaut and test pilot, has made history with her exceptional contributions to spacewalk operations and spaceflight missions. In 2024, she became the first woman to pilot an orbital spacecraft, further shattering glass ceilings in aerospace engineering.





Nigerian Women Making Strides in SST

Back home in Nigeria, several women have made outstanding contributions to the nation's space ambitions:

- **Dr. Rakiya Babamaaji**, Deputy Director at NASRDA, has led impactful environmental and space projects, contributing to Nigeria's growing influence in African space governance.
- **Dr. Chidinma Iroka** played an instrumental role in the design and testing of key national satellites like NIGSAT-2 and NIGSAT-X, positioning Nigeria as a capable spacefaring nation.
- **Mrs. Nkechi Jane Egerton-Idehen**, DG of NIGCOMSAT, launched a transformative Accelerator Programme that supports startups in leveraging satellite technology to address real-world challenges in sectors like agriculture, cybersecurity, and education.

Notably, in April 2025, the first all-female space crew flew aboard Blue Origin's New Shepard—marking a bold step toward gender equity in space missions.

Women Driving Innovation in Defence Space Administration (DSA)

Women at the Defence Space Administration (DSA) are at the forefront of technological innovation:

- **Research & Development:** From conceptualizing CubeSat platforms to pioneering self-charging drone technologies, female engineers are driving the next generation of space tools.
- **Satellite Operations:** Women led critical phases of the DELSAT-1 satellite activation, overseeing complex processes such as ITU filing, hub installation, and ground station setup.
- **Geospatial Intelligence:** Female analysts and researchers are championing efforts in border surveillance, national security, and environmental monitoring, ensuring space data informs real-world decisions.

DEFENCE SPACE ADMINISTRATION

Overcoming Challenges and Unlocking Potential

Despite these achievements, systemic barriers persist. Societal stereotypes, gender inequality, and limited funding hinder many women from entering or excelling in SST fields. However, the tide is turning.

Efforts to **transform cultural norms, enforce gender-inclusive policies, and build technical capacity** are creating fertile ground for the next generation of female scientists, engineers, and space explorers.



The Way Forward

To harness the full potential of women in SST, the following actions are recommended:

- **Early Education:** Launch awareness programs in primary and secondary schools to spark girls' interest in space science.
- **Skill Development:** Prioritize advanced training for female staff in technical and leadership domains.
- **Collaboration:** Foster partnerships with universities, tech companies, and international space organizations to drive innovation and mentorship.

Conclusion

Women have always been vital to the progress of space science and technology. From orbital missions to Earth-based innovations, their brilliance continues to fuel discovery and national development. By breaking down barriers and embracing inclusion, we unlock a future where innovation knows no gender—only limitless potential.

#WomenInSTEM
#SpaceScience
#NigeriaSpace
#SSTInnovation
#GenderInclusion
#CubeSats
#SatelliteTechnology
#STEMEducation

