**Saudi Arabia in space**

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[Saudi Arabia](https://www.nation.com.pk/tag/saudi%20arabia), known for some of its new enviable economic, religious versus global vision, social reforms, and resurgence, has also just become the first Arab and Muslim country to send a woman into space. Rayyanah Barnawi, a stem cell researcher, besides her unique honour to be the first-ever Muslim woman in space, also shares her eminence with Valentina Tereshkova, the first-ever woman to be in space in June 1963 as well as with Sally Ride, the first-ever NASA female to fly on Space Shuttle Challenger on June 18, 1983. Yet her ten days stay and studies in space far exceeded the 71-hour flight span of Valentina. In a further rare historical coincidence, it may be equally gratifying that Prince Sultan bin Salman who went to space aboard the US space shuttle Discovery Mission in June 1985, was also the first ever Arab and Muslim man to be in space. So, the Kingdom has in a way, accomplished a rare honour to send the first-ever Muslim man as well as the first-ever Muslim woman in space. The prince during his flight was part of a seven-member international crew that also included a French astronaut. He participated as a representative of the Arab Satellite Communication Organization, the ARABSAT, in deploying its ARABSAT-1B satellite, meant to provide communication to the Arab states. Earlier the same year, [Saudi Arabia](https://www.nation.com.pk/tag/saudi%20arabia) had also sent its ARABSAT-A into space.

[Elton John’s Glastonbury triumph attracts 7.3 million TV viewers](https://www.nation.com.pk/27-Jun-2023/elton-john-s-glastonbury-triumph-attracts-7-3-million-tv-viewers)

The present flight, in contrast, involved a lot more indigenous planning, research work, and endeavours and conducted about twenty new experiments in space. Rayyanah together with her compatriot, the fighter pilot Ali al-Qarni, flew on a private mission, known as Axiom 2 on a Space X Falcon 9 rocket from the Kennedy Space Centre Cape Canaveral in Florida on May 21 and splashed down ten days later in the Mexico Gulf off the Panama City Coast. They were also accompanied by Peggy Whitson, a former NASA astronaut and leader of the present mission and John Shoffner, a skydiver cum sports car racing driver, astronaut and investment magnate who also served as a pilot for this flight. This avant-garde Saudi success in space has imparted a new dimension to the Kingdom’s rather recently founded space programme. Its space programme as well as the Space Commission despite Prince Salman’s flight in 1985, were established later in December 2018. The programme was given a fresh stimulus by Crown Prince Mohammad bin Salman, the Prime Minister, as a part of his Vision 2030 reform, progress and diversification drive to seek new innovative economic and industrial avenues. An allocation of $2.1 billion was first made for it in the year 2020.

[Mitsotakis’s conservatives clinch landslide Greece election win](https://www.nation.com.pk/27-Jun-2023/mitsotakis-s-conservatives-clinch-landslide-greece-election-win)

The concept, design, performance, and success of the experiments during this mission have manifested the thrust, impact and prospectus of this space programme. They ranged from finding the most optimum conditions for the synthesis and effects of some medicines, and comparative behaviour of various objects in atmosphere and space and earth to inspiring and nurturing a further generation of young enthusiasts for space flights and research. Barnawi, herself being a stem cell researcher evidently was quite competent to comprehend how the stem cells divide and multiply in space. Stem cells are the fascinating emerging magic salve for some physiological conditions and disabilities. The bone marrow cells, for instance, may be used to create bone or heart muscle cells and to treat some cardiac, neurological, cancerous, arthritis and inflammatory digestive disorders. Yet an interactive and innovative education programme conducted by the crew to inspire the public and involve thousands of Saudi Arabian students was a real hallmark of the flight. The programme was designed with the Dream UP Initiative and the NanoRacks. The Dream UP is a free space-based incentive to learners and educators around the world while the NanoRacks is a company that crafts space hardware and helps in experiments and missions launched in lower orbit. The experiments demonstrated the difference in the behaviour of the mixing and separation of various liquids in space. Some selected liquids were mixed on earth in specially designed apparatus supplied by the NanoRacks. The same fluids were then mixed in the apparatus provided by this organization to enable the students and the viewers to vow the difference in the behaviour exhibited by these fluids. This behaviour can be further utilized to facilitate the synthesis and separation of some precious medicinal and other products in space. The Kite experiments similarly illustrated the behaviour of different shapes of kites in space and the way the same shapes responded when flown by the students on Earth. The kite experiments, it may be interesting to recall, were also quite popular with the Wright Brothers who invented the aeroplane in 1903.

[Ukraine forces recapture new Russian-occupied settlement](https://www.nation.com.pk/27-Jun-2023/ukraine-forces-recapture-new-russian-occupied-settlement)

Al Qarni and Barnawi also shared some experiments with the students to illustrate how the heat transfer process differs in space. They interacted with the students and the viewers tuned in through their homes and 47 special viewing facilities furnished for this purpose. The Space Commission also recorded these interactions for further reference and benefits. Barnawi was quite pleased and ecstatic about this interaction with young learners and expressed her hope and confidence that the new talent would certainly emulate and advance a lot further than their achievements. This zeal and the zing would certainly spur more wonder.