

Nine Muslims in Space

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FOR decades only the United States and the former Soviet Union were able to mount the necessary financial and human resources to tackle the "final frontier," while other countries took long to materialize similar ambitions. Today, several countries are eager to join the club with only China being able so far to independently launch manned missions to the edges of space.

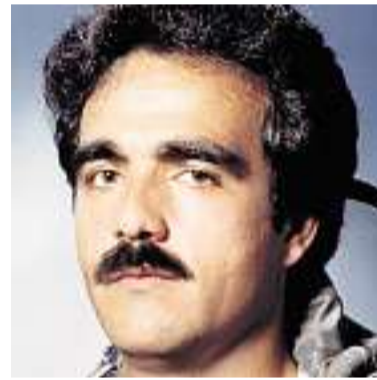
Although not as far ahead as China, Malaysia has become the first Muslim state with an already established space program to send an astronaut to space. The launch aboard the Russian Soyuz TMA-11 spacecraft in October 2007 was made possible as part of a billion dollar fighterjet deal between the two nations.

Muslims in Space

But Sheikh Muszaphar Shukor, an orthopedic surgeon at the Hospital Universiti Kebangsaan Malaysia, was not the first Muslim to cross the 100-km boundary above Earth considered to be the defining line for outer space. In fact, eight Muslims have already undergone that feat.

The first ever Muslim to fly to space was Prince Sultan bin Salman AbdulAziz Al-Saud from Saudi Arabia. In 1985 Al-Saud joined the crew of mission STS-51G on board the American space shuttle Discovery as a payload specialist to deliver the ARABSAT 1-B communication satellite into orbit. With his flight, Al-Saud not only became the first Muslim in space but also the first member of royalty to go there. Next came Syrian Muhammed Faris who, in July 1987, joined the crew of Russian mission Soyuz TM-3. Originally a navigation pilot with a rank of colonel in the Syrian Air Force, Faris flew as research cosmonaut to the Soviet space station Mir.

Five months later, Azerbaijani Musa Manarov flew in December 1987 as part of the Russian Soyuz TM-4 mission to Mir. Originally a colonel in the Soviet Union's Air Force, Manarov joined the mission as flight engineer. Along with his fellow crew members, they became



Top (L to R) Anousheh Ansari of Iran/USA. Prince Sultan bin Salman Abdul Aziz Al-Saud of Saudi Arabia. Salizhan Shakirovich Sharipov of Uzbekistan. **Center (L to R)** Faris Muhammed Achmed of Syria. Musa Khiramanovich Manarov of USSR. Tokhtar Ongarbayevich Aubakirov of Russia/Kazakhstan. **Bottom (L to R)** Talgat Amangeldyevich Musabayev of Russia/Kazakhstan. Abdul Ahad Mohmand of Afghanistan. Sheikh Muszaphar Shukor of Malaysia. Pictures: AFP, Wikipedia, spacefacts.de, eudoxa.se

the first ever to spend a whole year in space, returning back to Earth in December 1988. Manarov flew again as flight engineer as part of the Soyuz TM-11 mission in December 1990, this time spending a year and three months in space during which he performed more than 20 hours of spacewalk.

Space Hero

While still in space during his first mission in August 1988, Manarov was joined by another Muslim from Afghanistan aboard space station Mir. A pilot in the Afghan Air Force, Abdul Ahad Mohmand flew aboard the Soyuz TM-6 mission as research cosmonaut and spent eight days on Mir conducting experiments along with his crewmates. Mohmand,

however, is remembered in history for saving his mission and crew's life in what would have been a space disaster.

It wasn't for 10 more years that another Muslim went up to space. This time it was Tokhtar Aubakirov from Kazakhstan. In 1991, Aubakirov joined the Soyuz TM-13 crew to Mir and spent eight days in space, even though he had not

completed his professional training as a cosmonaut.

Record Breaking

Another Kazakh followed soon, however, in 1994 on board the Soyuz TM-19. Talgat Musabayev flew as flight engineer for this mission and later commanded two other flights in 1998 and 2001. The last mission, Soyuz TM-32 became famous for carrying the first ever famous space tourist to the International Space Station (ISS), the successor of the Russian space station Mir.

Musabayev's second mission on Soyuz TM-27 would only arrive at space station Mir on January 29, 1998, two days before another mission, STS-89, was set to leave. This would be the second time two Muslims would meet in space, since the crew that was to leave the space station included cosmonaut mission specialist Salizhan Shakirovich Sharipov from the American space shuttle Endeavour's mission STS-89.

Originally a fighter pilot and flight trainer from Uzbekistan, Sharipov flew another mission in 2004 dubbed Expedition 10 that lasted about six months in space at the ISS. He is planned to be part of the prime crew of Expedition 18 as well, took off to the ISS in July 2008.

Sharipov shares with two other Muslims, Musabayev and Manarov, spots in the top 50 list of total time spent in space based on a 2006 count, occupying the 48th, 25th, and 8th places on the list respectively.

But record breaking does not end with professional Muslim astronauts. Iranian-American Anousheh Ansari became the first female private space tourist in September 2006. Traveling aboard the Soyuz TMA-9 as part of the Expedition 14 mission, Ansari also became the first person to blog from space.

Like medieval Muslim explorers who tackled new frontiers, Muszaphar Shukor had a chance to put Muslim nations back on the cutting edge of discovery. Perhaps, a new age of exploration would be born in this part of the world.

islamonline.net/The Brunei Times

SCIENTISTS

ULUGH BEGH (1393-1449): "The Astronomer Sultan"



- Name** : Mirza Muhammad Tariq ibn Shahrukh
- Title** : Chaghatay, Ulugh Beg, *Ulug Bey*, *Ulugh Bek*, *Ulug Bek*, Timurid Sultan, Timurid Ruler, Great Ruler, Patriarch Ruler, *Amir-e Kabir*, Mathematician, Astronomer
- Birth** : 1394 in Sultaniyeh, Persia
- Death** : October 27, 1449
- Ethnicity** : The Barlas tribe of Transoxiana (now Uzbekistan)
- Main interests** : Mathematics, astronomy
- Notable ideas** :
 1. Astronomy-related mathematics, such as trigonometry and spherical geometry;
 2. Built an enormous observatory in Samarkand (1424-1429), called the *Gurkhani Zij* (similar to Tycho Brahe (1546-1601)'s later Uraniborg and Taqi al-Din (1526-1585)'s observatory in Constantinople);
 3. Increased his accuracy by increasing the length of his sextant; the so-called *Fakhri* sextant had a radius of about 36 meters (118 ft) and the optical separability of 180";
 4. Built a *madrasah* ("university" or "institute") on Registan Square in Samarkand, inviting numerous Muslim astronomers and mathematicians to study there;
 5. The crater Ulugh Begh on the Moon is named after him by the German astronomer Johann Heinrich von Mädler on his 1830 map of the Moon.
- Works** : Compiled the *Zij-i-Sultani* of 994 stars in 1437, generally considered the greatest star catalogue between those of Ptolemy (90-168) and Tycho Brahe, a work that stands alongside Abd al-Rahman al-Sufi (903-986)'s *Book of Fixed Stars* (964).

Ulugh Begh