

Islamic Religious Practice in Outer Space

The National Space Agency of Malaysia (ANGKASA) was founded by the Malaysian Ministry of Science, Technology, and Innovation in 2002. In August 2003, then-prime minister Mahathir bin Mohamad announced that Malaysia would send an astronaut to the International Space Station (ISS) within the framework of a joint programme with Russia. This programme stipulated the purchase of 18 Russian Sukhoi SU-30MKM fighter jets amounting to approximately 700 million Euros by the Malaysian Ministry

of Defence. In return Russia agreed to train two Malaysian astronauts of whom one would be sent from the Cosmodrome in Baikonur, Kazakhstan in a Soyuz TMA-11 spacecraft to the ISS. Malaysia expects from its space project an increased international reputation, and is planning an expedition to the moon for the year 2020. Also anticipated are impulses for the country's science and economy in regard to the development of space technology and the establishment of space research.

The Department of Islamic Development of Malaysia (JAKIM) emphasized in a Friday sermon distributed to the mosques that space exploration helps in understanding the mysteries of the universe. Islam is the state religion in Malaysia and sixty percent of the twenty six million Malaysians are Muslims; this made it necessary for the ANGKASA to prepare for the case that a Muslim would be chosen. Therefore the ANGKASA in cooperation with the JAKIM organized a two-day "Seminar on Islam and Life in Outer Space" in April 2006. Although Sheikh Muszaphar Shukor was not the first Muslim to be in outer space, the seminar was the first occasion during which the issue of Islam in outer space was discussed. At the end of the seminar a guideline was adopted.

Islamic scholars face several problems when they deal with journeys to outer space. Would prayer be conducted after world time, meaning five prayers within twenty four hours, or after ISS-time, meaning eighty prayers as the ISS circuits the earth sixteen times in twenty four hours? Given that ablution is not possible due to water conservation at the ISS, would the prayer be legally valid? How would the direction of prayer be determined? Furthermore, the required prayer motion would be difficult to perform because of weightlessness and shortage of space at the ISS. Another complication involved how to perform the Muslim fast since Shukor's ISS-mission was taking place during Ramadan.

The "Guideline for Performing Islamic Rites at the ISS" gives answers to the most pressing of these questions. Prayer times, it points out, should be measured after world time, which means five prayers every 24 hours while the exact times for prayer should follow the prayer times of the point of departure, in this case Baikonur. To lift the state of ritual impurity ablution should be practiced by performing *tayammum*. This is originally a symbolical ablution which uses sand instead of water, but since even sand is not available at the ISS the hands should be stroked on a wall, mirror, or similar surfaces.

Facing the Kaaba is also required for prayer in outer space but if this causes difficulties the earth should be used as orientation, and in cases where even this is impossible the Muslim astronaut is free to perform his prayer in any direction. The course of movement of the Islamic prayer is confined to the situation at the ISS. The astronaut is allowed to make symbolic movement or even perform these movements mentally. He can perform the Islamic fasting during the month of Ramadan but he is free to suspend it and continue it when he returns to earth. If he decides to fast he should follow the fasting times of his point of departure.

The Muslim astronaut should adhere to the Islamic diet and prefer food with halal-status. But if there is no such food, he is allowed to eat just enough to alleviate his hunger. The Islamic dress code also ap-

In October 2007, Malaysia sent its first astronaut into space. The thirty-six year old orthopaedic surgeon, Sheikh Muszaphar Shukor, was sent to the International Space Station on 10 October 2007 and returned to earth on 21 October 2007. As the astronaut was a practicing Muslim the Malaysian space agency provided him with advice on religious practice in the form of a guideline for performing the Islamic rites at the space station, and adapted classical legal opinions on religious practice during travel to the new context of outer space.

plies to Muslim astronauts: the male astronaut has to cover the body between the navel and the knees and the female her whole body except for her face and hands. Nothing is said in the guide about gender-segregation, which is especially surprising since a female Muslim astronaut had already travelled to the ISS. But the actions to be taken in the case of death in outer space have been specified: The dead body should be returned to earth so that the required funeral can be per-

formed. When this is not possible, it is permissible to perform a "space funeral" with a simple ceremony.

The guideline not only gives advice for Muslim religious practice but also articulates the main features of Islamic ethics in outer space in the section entitled "etiquette of travelling" which states that the Muslim astronaut should maintain his relationship with God, sustain "harmoni-



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Sheikh Muszaphar Shukor at the ISS

ous relationships among people", and preserve the space environment. Although several Muslim countries among them Malaysia, are members of international organizations which address outer space issues, such as the United Nations "Committee on the Peaceful Uses of Outer Space" (COPUOS), none of them preceded Malaysia in formulating an Islamic approach to space ethics.

After his return to earth Sheikh Muszaphar Shukor reported that he had no difficulties performing his prayers at the ISS. Meanwhile, the "Guideline for Performing Islamic Rites at the ISS" is no longer the only Islamic legal opinion on Islamic religious practice in outer space. The Islamic scholars Rifaat Fauzi Abd al-Muttalib from Egypt and Sano Koutoub Moustapha from Guinea have issued fatwas on how to perform the Islamic prayer in this context. Both these fatwas and the Malaysian guideline offer pragmatic solutions for performing the Islamic religious practice in outer space. Their solutions stand in analogy to the Islamic regulations on travelling. In this respect the guideline does not enter uncharted territories but treads the trails of the classical Islamic legal opinions. What is new is the fact that the concept of travelling on earth is extended to the travelling to outer space and that journeys to outer space are explicitly allowed.

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