The Royal Observatory Greenwich (ROG) has acted as a resource centre for mosques in the UK, providing data on the visibility of the new crescent Moon that is essential for determining the beginning of each Islamic month. A series of projects have sought to take advantage of this link, strengthening the connection between the ROG and the British Islamic community and seeking to engage a traditionally ‘hard to reach’ audience with modern astrophysics. I will describe these activities and offer a brief analysis of their impact.

Since 1998 the ROG has acted as a first point of contact for press and public enquiries related to modern astronomy in the UK, running a number of educational and outreach projects around this theme. London offers a unique setting for an astronomical observatory. As a city, it encompasses extremes of wealth and poverty and one of the world’s most ethnically diverse populations. For example, some 8.5% of citizens (around 600,000 people) describe themselves as Muslims compared with just 3.5% in the rest of the UK. There are also large Jewish, Hindu and Chinese communities as well as recent arrivals from all over the world (2001 census data). ROG staff have sought to ensure that our visitors and participants in events reflect this diversity, but with limited success.

Exceptionally, the Muslim calendar is set through direct observation of the new crescent Moon, the visibility of which remains difficult to predict with high accuracy. This factor has led to a long association between classical astronomy and Islam (e.g. Hoskin M., Cambridge Illustrated History of Astronomy, CUP 1996; Schaeffer, B.E., QJRAS, vol. 37, pp. 759-768 1996; Yallop, B., NAO Technical Note No. 69, 1998). Along with other astronomical institutions the ROG supplies predictions generated by HM Nautical Almanac Office to the UK Islamic community. This, and its substantial collection of Islamic artefacts, makes the ROG an ideal setting for workshops and lectures targeting the UK Muslim population.

Firstly, an initial meeting at Greenwich in October 2004 ran in partnership with the Muslim Council of Britain (MCB) and brought in key figures from UK mosques and universities. It concentrated on the technical issues of sighting the new crescent Moon, the changing appearance of the sky at sunset and the calculation of prayer
times. The Spitz opto-mechanical planetarium then in use illustrated many of these concepts. Delegates were also introduced to the observatory collections, used our 70-cm refractor to observe Venus and a small hydrogen alpha telescope to view prominences around the Sun. 48 people participated, with a cap set by the size of our then planetarium.

Extensive consultation with different communities followed and informed a ‘family learning day’ at the National Maritime Museum in March 2005. This broadened the theme of astronomy and calendars from different cultures and offered activities such as Chinese calendar making and traditional Jewish storytelling alongside more conventional work in our planetarium and lecture theatre. The larger range of activities engaged over 300 members of the public of all ages. In June 2005 two further higher level days took place at the National Space Centre in Leicester and the Glasgow Science Centre. Both of these venues are sited in cities with high Islamic populations (11% and 6% respectively—2001 UK census). The events attracted a high turnout with 165 delegates in Leicester and 79 in Glasgow. Finally a web resource on calendar systems will be live by the end of 2005. This makes a direct connection between astronomy and timekeeping and is intended to support the raw data provided by the observatory.

Surveys indicate that the Greenwich events were well received with 96% of delegates rating them as good or excellent. Virtually all participants were interested in taking part in future events with a focus on modern astronomy, including courses and telescope viewing evenings. In Glasgow and Leicester the feedback was also very positive with the vast majority of attendees interested in further events associated with modern astronomy. Future activity will capitalise on the strong partnership between the ROG and the MCB with the goal of changing the demographic profile of participants in astronomy events.

This project offers a model for science centres and observatories in cosmopolitan urban settings. At least in the Anglo-Saxon countries, there is much interest in broadening the ethnic diversity of scientists and events of this kind may help to move that process forward.

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**INITIAL EVALUATION**

![Figure 1. Islamic astronomy delegates viewing the Sun through a hydrogen-alpha telescope (courtesy of Dr Jamil Sherif, MCB)](image)

**CONCLUSION**