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An open day for children: The *Bambineide* in Arcetri

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Abstract

We briefly review the outreach activities at the Arcetri Astrophysical Observatory, and in particular the annual open day for children called *Bambineide*.

Visits and guided tours

For decades the Arcetri Astrophysical Observatory in Florence, Italy, has provided outreach and educational activities especially directed to students at the primary and secondary school level. School visits usually take place during the morning. After a tour of the observatory, young students can observe sunspots on the solar photosphere with a historical, but completely refurbished refracting telescope (36 cm diameter), solar protuberances with a solar telescope with a narrow-band H α filter, cosmic-ray tracks with a cloud chamber, and hear a lecture on the scientific research carried out by staff astronomers. About three times per month, the observatory is also open to the general public at night. Night-time observations with the historical refractor telescope (assembled circa 1866) show the craters of the Moon, the rings of Saturn, the moons of Jupiter, the Orion Nebula, passing comets and much more. The total number of visitors exceeds 15,000 people per year.

The planetarium and the (planned) Museum of the Universe

In collaboration with the Museum of History of Science and the Science Foundation of the city of Florence, the Observatory also runs a planetarium. In addition, the observatory promotes visiting lectures to schools by professional astronomers, activities with a portable Starlab planetarium, science exhibits and laboratories. Some recent interactive exhibits are *Lights and Shadows of the Universe*, *Time in Nature*, *Interferometry* and *Adaptive Optics* (the latter especially designed for high-school students). On the occasion of the Galileo's celebrations during the International Year of Astronomy (2009), the Arcetri Observatory has proposed the construction of a Museum of the Universe. This would be an interactive science centre and planetarium, located in the Torre del Gallo, close to the observatory and to the house where Galileo spent his last years in exile.

The *Bambineide*

Once a year the Arcetri Observatory opens its gates to the children of Florence. The children are aged from four to eleven. This means the arrival of about 500 children and a comparable number of parents, an event called *Bambineide* (A Children's Epic). The *Bambineide* exploits the fascination of astronomy to attract primary school children to a scientific research institution, where they can familiarise themselves with astronomical instrumentation and ask professional astronomers

questions. During the visit, the children can take part in a show inside a Starlab planetarium, listen to stories about the constellations and their mythology, take part in scientific experiments and watch a scientific play (in 2007, dealing with the discoveries of Galileo). The programme is enlivened by readings of children's astronomy rhymes. In the evening, telescope observations become the main attraction. These activities for children, in addition to the day-time guided visits to the observatory, help and strengthen the scientific education offered by primary schools, promoting a hands-on approach to science.

Each edition of the *Bambineide* is focused on a different theme: in 2004, *The Realm of Stars*; in 2005, *Children on Mars*; in 2006, the *World of Black Holes* and in 2007, *The Life and Science of Galileo*. The *Bambineide* has become a cherished tradition in Florence, and it has been exported to several Italian cities.



Figure 1 (a - b) – Posters of the 2005 and 2007 Open Day at the Osservatorio Astrofisico di Arcetri (Florence, Italy), focused on black holes and the life and science of Galileo, respectively.