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An example of Outreach Techniques: "The solar system" at the Observatoire de Paris

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Abstract

Established in 1667, the Observatoire de Paris is the most important national center for research in astronomy gathering about 30 % of French astronomers.

The three main components of its mission are: research, teaching and public outreach.

Dissemination of scientific and technical knowledge is an important component of the institution's life: open access during major astronomical events; (touring) exhibitions; guided tours through its three sites: Paris, Meudon and Nançay; etc.

During the last three years, the Observatoire de Paris has developed pedagogical tools around the solar system.

A scale solar system

First of all, a scale solar system has been elaborated at the Observatoire in Meudon.

Such a scale model of the solar system is a good way to appreciate just how large space really is. This model is used as an educational resource and for guided tours of the Observatoire. Indeed, each week, scholar or other groups visit the Observatoire.

This scale solar system spreads over 500 meters (0.3 miles) in the garden of the Observatoire. One meter corresponds to ten million kilometers so that the whole trail covers the distance between the Sun and Neptune.

Three-dimensional spheres associated with large panels containing educational information represent planets and the Sun.

Elaboration of this project

This project carried out by the communication service of the Observatory, contained several parts: iconographic researches, blueprints and construction of panels (performed by an architect of the Observatory), texts written in French and translated in English…

A working group, made of several researchers from the Observatory specialized in the solar system and two school teachers, was set up to validate the scientific content of the panels.

Apart from the key characteristics of each object, texts contain information about current researches, related spatial missions, etc.

Raw materials and printing supports have been carefully chosen according to the environmental constraints (marine wood, stainless steel, waterproof and UV-proof equipment).

An architect of the Observatory has sculpted spheres representing planets and the Sun.

This project took about 6 months to be completed, and costed about 7 000 €.

Exhibitions

The second step of this project has been to transform this educational trail into two different itinerant exhibitions: a first one with the same scientific content and another one dedicated to a young audience.

Both exhibitions are lent for free to any schools asking for it.

Partnership with China

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The exhibition has also been translated in Chinese in the context of the International Year of Astronomy and is now traveling all around China. To this aim, a collaboration between the Observatoire de Paris and the Chinese antenna of the National Center for Scientific Research (CNRS) has been developed.

Educational pack

The Observatoire de Paris set up a system of school sponsoring for several years. For this purpose, a pedagogical pack dedicated to the solar system has been created. Astronomers coming in the school use a briefcase. It contains among other things, a scaled solar system in which the Sun is a huge balloon.

The future: a scale solar system in France

This new project consists in building a scale solar system spread over the whole country, along highways connecting Paris to Marseille (north to south of France).

Cooperation between the Observatory of Paris and highways' companies is currently being developed.