

## *The Sultans of Science: 1000 Years of Knowledge Rediscovered*

Feb. 5- May 10, 2009

This beautifully-designed exhibition celebrates the scientific breakthroughs made during the eighth to 18<sup>th</sup> centuries, a period often referred to as “The Golden Age of Islamic Science”. Developed by MTE Studios of Cape Town and Dubai, this exhibition introduces visitors of all ages to a civilization where innovation was encouraged, leading to the highest levels of achievement in mathematics, science and technology.



Spanning 700 m<sup>2</sup>, the exhibition includes accurate reproductions and models of engineering marvels that are veritable works of art. Exhibit clusters focus on disciplines that were greatly influenced by Muslim scholars:

### **Pioneers of Flight**

This area features a model of the flying machine successfully launched by Abbas Bin Firnas in ninth century Spain, an interactive aerodynamics display and a kinetic model that simulates the movement of a bird’s wing.

### **Medical Inventions and Discoveries**

Visitors can grip a pulse sensor to see their own heartbeats displayed against a backdrop of a diagram of the human circulatory system dating to 1242 CE and examine replicas of sophisticated surgical tools that are surprisingly similar to those in use today.



### **The World of Islamic Astronomy**

Visitors can use a Quadrant to measure the angle between two stars, experiment with an Armillary Sphere to plot the relative movement of stars and planets and use an Astrolabe to figure out the time of day by measuring the height of a star above the horizon.

### **Mathematics, Art and Architecture**

Mathematicians devised complex formulas and developed geometric and trigonometric solutions to mysteries of astronomy, optics and engineering. Hands-on exhibits will allow visitors to explore the patterns and principles of Arabic art and architecture.

### **The Foundation of Optical Science**

The 10<sup>th</sup> century Muslim physician Al Haytham discovered how the eye works and understood that light is made up of distinct colors, explaining the rainbow effect. Visitors can conduct experiments in the Optical Laboratory using lenses, refraction, prisms and a pinhole camera.

### Fine Technology and Invention

During the era, master engineers developed automated devices ranging from practical items to clever inventions intended simply for amusement. The dramatic centerpiece of this area is a working recreation of Al-Jazari's Elephant Clock, a kinetic sculpture with secret doors and musicians playing instruments.



### Applied Hydrology

As medieval Muslim cities grew into large urban centers, engineers were challenged to solve problems such as providing reliable water supplies. By physically interacting with early engineering devices, visitors recreate the exciting moment of historic innovation.



### Great Explorers

Muslim explorers and traders traveled over vast distances from China to Central Africa: this exhibition includes a four-foot model of a ship commanded by Chinese Muslim Admiral Zheng He in the 13<sup>th</sup> century. The ship was one of a fleet of 300, each a vast floating city with stables and vegetable gardens for extended journeys.

### The House of Wisdom

This vital institution of higher learning was founded in Baghdad in the ninth century and attracted an international cadre of scholars. In the Interactive Library, visitors will learn about the main achievements of those associated with the House of Wisdom, such as the creation of algebra.



### Ancient Islamic Astronomy

To complement the *Sultans of Science* exhibition, our newly-refurbished planetarium will be running shows on the theme of "Astronomy of the Ancient Islamic World" from February through to May.

To complement this exhibition, the Shoppers Drug Mart® OMNIMAX® Theatre will feature the IMAX film *Journey to Mecca*. This spectacular documentary retraces the perilous two-year journey of Ibn Battuta as he made his way from Tangiers to Mecca in the 1320's. This film includes extraordinary footage of the pilgrimage to Mecca as it was experienced in the 14th century, and as it is experienced today by millions of people.

*Sultans of Science* will stimulate interest and awareness of the impact scholars of the Islamic world have had in founding today's global science and technology. Families will enjoy a rich, interactive experience that will reveal how a multicultural accumulation of knowledge led to scientific innovation and discovery.

***Sultans of Science: 1000 Years of Knowledge Rediscovered*** runs from Feb. 5- May 10, 2008 and is free with admission to the Ontario Science Centre.

For directions, admission hours and prices go to [www.ontariosciencecentre.ca](http://www.ontariosciencecentre.ca)

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