Planetarium Science Center

PSC newsletter
1st School Semester (2007-2008)

Issue 1
September 2007

Editorial
Welcome to the PSC

By Hoda Elmikaty
Director, BA Planetarium Science Center

It gives me great pride to be writing the opening editorial for the first Planetarium Science Center newsletter, the publication of which coincides with the fifth anniversary of the Bibliotheca Alexandrina.

When I look back on the past five years when we started to think about hosting a science center at the BA, I see we have come a long way, but I also foresee that we still have a much longer way ahead.

First, it was an idea, a dream, but it came true through the hard work and dedication of my colleagues at the PSC who believed in our mission and of the true necessity of communicating science to the general public.

For those who have not visited our center at the Library of Alexandria, I wish to brief them about the three main sections that it encompasses, namely:

*1) **The Planetarium**, which offers a diversity of fascinating scientific shows that are as entertaining as they are informative; the shows target a variety of age groups, and cover a range of scientific topics.*

*2) **The History of Science Museum**, which highlights the historical aspect of science in Pharaonic Egypt, Hellenistic Alexandria, as well as the Arab Muslim era.*

*3) **The ALEXploratorium** is the third section of the PSC and is dedicated to children and youth. It is a hands-on science facility that aims to make science more accessible, more understandable and far more interesting through innovative and interactive activities that not only explain scientific facts but more importantly demonstrate the presence of science in almost everything we see, hear or touch in our daily life.*

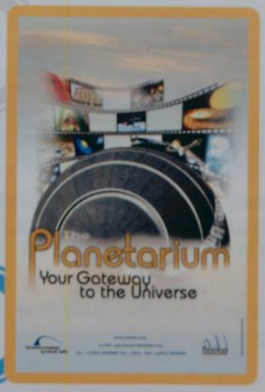
All three sections aim to offer an entertaining hands-on experience with scientific themes. Our main target group is school children 6 to 18 years of age, but we also cater for University students through a variety of events.

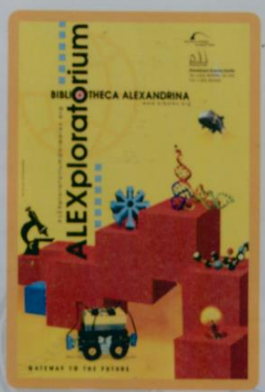
The PSC hosts many activities and events ranging from hands-on workshops, to observation camps, lectures, exhibitions, seminars and conferences.

The PSC has also become a member of a number of international networks. It is the founding member of the North Africa and Middle East Science centers network (NAMES), the host of which is the Bibliotheca Alexandrina. It is also a co-founder of the Mediterranean Association for Science Advancement and Dissemination (MASAD). The PSC is also a member of the International Program Committee of the World Congress of Science Centers.

I invite you to browse through the pages of our first newsletter, hoping that it will serve as a useful tool in spreading our message of "Science for All". So read on and enjoy!

Contents





Editor and general supervisor:
Maissa Azab, PSC publications coordinator
Art supervisor:
Amira Daabisse, PSC publications specialist

Planetarium

The BA Planetarium is a member of the International Planetarium Society (IPS) and it aims to help establish a scientific culture in Egypt, with special emphasis on Astronomy, through a diversified collection of scientific shows that target different age groups and various scientific backgrounds.

The architectural design of the Planetarium, as a suspended planet-like sphere, is integrated within the architectural concept of the main library building, which symbolizes the rising sun of knowledge. The Planetarium's theatre is a 14-meters-diameter hemisphere comprising 100 seats arranged with an increasing backward tilt to give the audience a comfortable view of the 360° surrounding screen.

Centered in the theater is the Star Ball, a projector that simulates the night sky with its different celestial bodies on the spherical screen of the Planetarium dome. The Planetarium also accommodates an 8/70 IMAX projector, as well as three video projectors for Video Panorama shows. In addition to all these projection facilities, the Planetarium can project laser shows, DVD, VHS and Betacam films. The visitors of the Planetarium can enjoy all shows in either English or Arabic through the use of headsets.

Through the unrelenting efforts of the Planetarium specialists, an innovative technical modification of the Planetarium IMAX system now allows the BA Planetarium to offer, for the first time in four years, a range of seven shows, four of which are IMAX films. This development makes it possible for the Planetarium to tackle a larger diversity of scientific themes through a variety of cinematographic as well as animation techniques.

The BA Planetarium enjoys considerable expertise in the field of Planetarium technology, and is a regional pioneer in the production of arabized Planetarium shows. Furthermore, the Planetarium is currently finalizing the production of the first Planetarium show to be produced entirely in the Middle East, in cooperation with the Arab Academy for Science and Technology. The film is entitled "Sky of Alexandria", of which the script was written by the Planetarium resident astronomer, and scientifically revised by Dr. Farouk Elbaz of Boston University. The first showing of the film is scheduled to take place on 22 October 2007.

Available Shows

Ring of Fire

An IMAX film
Duration: 40 Min.

Our earth was born of fire.

Today, more than four hundred active volcanoes shape life on the Pacific Rim; geologists call it "The Ring of Fire." Here, where half a billion people dwell, is a window on the awesome geological forces that shape our planet:
... In Beppu, people have learned to live with volcanic powers, harnessing their geothermal energy for health and relaxation.
... Deep within the crater of the notorious volcano of Kawah Idgen, there are those who seek their living directly from the cauldrons of Hell.
... High on the slopes of the sleeping volcano, at the surviving Mother Temple of all Bali, the Kecak Dance unfolds.
... The rich fertile land which is the wealth of Indonesia is a gift of the volcanoes.
... Not only humans are adapted to life on the Ring of Fire.

Creation did not happen just once. Creation continues. It is a beginning without end. The Earth is alive.

Human Body

An IMAX film
Duration: 40 Min.

Using groundbreaking photographic techniques, the Human Body promises to amaze audiences with a firsthand look at some of the body's simple biological processes, such as the creation of 200 billion red blood cells over one 24-hour period, the 30-40 yards of new hair we sprout each day, and the daily demise of 10,000 brain cells that will never be replaced!

You will be enthralled by this extraordinary and insightful adventure that begins each morning from the moment we first open our eyes, as burning cells from the surface of our retinas reveal a fresh set of sensors, to the last rumblings of our evening meal as it is turned into the energy we will need to face tomorrow.

The Human Body is a presentation of the Learning Channel and BBC Worldwide of a Discovery Pictures/BBC co-production in association with the Maryland Science Center and the Science Museum, London with major funding provided by the National Science Foundation.

Oasis in Space

A half-dome video panorama show
Duration: 25 Min.

Beyond the moon, beyond the sun and stars, far beyond the Milky Way, we enter a realm of perpetual darkness ... the cold, black emptiness of space.

Yet, even here, small amounts of matter can be found, these microscopic particles form the raw material of the evolving cosmos.

About five billion years ago, a new, rather average yellow star condensed from a great cloud of gas and dust. Relatively close to the star, a place of blue skies and liquid looms into view.

Here we find our "Oasis in Space".

Our star dwindles in the distance, circled by a family of planets and moons. Water exists on many of these worlds, but only on Earth did it become the major component of evolving life.

But the Sun is just an average star; small, stable, like billions of other stars in the Milky Way galaxy. And our galaxy itself is typical of billions of galaxies in the known universe, each in turn, home to untold billions of stars.

How many other "water planets" orbit just the right distance from their own "average" stars?

The search for life goes on.

We listen for a faint echo from some far-off civilization for a signal from an alien world ...

for signs of another ... Oasis in Space.

Show Times

For the daily schedule and fees, please consult the Center's official website: www.bibalex.org/psc

Kindly note that during the first semester, the Planetarium is undergoing maintenance and upgrading work, thus, shows can be canceled at any time without prior notification.

Regular Show Times
Saturday – Thursday: 11:30 am + 13:30 pm
+ 10:30 am for groups only (Sunday – Thursday)

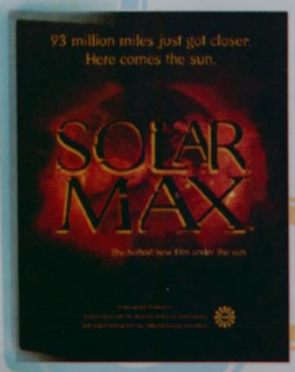
Coming Soon

SOLARMAX

An IMAX film
Duration: 40 Min.

The subject of the film is humankind's struggle to understand the sun and the sun-earth relationship, from the earliest times to the present day. Structurally, the film will trace the ascent of humankind as expressed by our developing understanding of the sun, and through it, our universe. The underlying theme of the film is the triumph of knowledge over ignorance, of light over darkness. The sun is the only star that we can study directly but it is so completely ubiquitous, so intrinsic to life and culture, that we are effectively blind to it. It's time for a new look. Just as the telescope made the universe conceivable so new satellite borne instruments are allowing us to look at a sun that we have never seen before.

The film is scheduled to be available during the second school semester (2007/2008) .



History of Science Museum

Around 2000 years ago stood the most famous library in antiquity; the ancient Library of Alexandria. Annexed to it stood the *Mouseion* that gathered elite intellectuals of that era.

The History of Science Museum, one of the permanent exhibitions at the new Library of Alexandria, is the heir of the *Mouseion*; it pays homage to the scientific contributions of the ancient Egyptians, as well as that of the great Greek and Arab scholars. The Museum was launched to revive the scientific discoveries and the great achievements of the ancient scholars and their translators, without whom such writings would not have transcended space and time.

The birth of this Museum came as a result of the close and fruitful cooperation between the Bibliotheca Alexandrina and the French *Conservatoire National des Arts et Métiers*. The main objective of the Museum is to show our visitors, especially youth, that science is an ongoing endeavor that transcends social, religious, as well as geographical boundaries. The Museum covers three main eras, namely: Egypt of the Pharaohs, Hellenistic Alexandria, and the Arab-Muslim Middle Ages.

The Museum occupies a special rectangular space beneath the sphere of the Planetarium which seems to float in mid-air. Enclosed by high granite walls and shielded by immense glass skylight, the Museum feels like a modern-day cloister. The Museum offers information about the history of Medicine, on display on tables along the glass side of the museum; other fields of science, which include astronomy, geography, arithmetic, as well as hydraulics and pneumatics, are on display on panels on the other side.

The History of Science Museum is not just a traditional museum; in addition to the traditional Museum tours, it integrates a variety of activities that range from festivities, to lectures, contests and workshops, all of which target school children in particular and the public at large in general.

- **Museum entry fees are included in all Planetarium show tickets**
- **For non-audience of the Planetarium, Museum entry fees are as follows:**

Students	**0.25 EGP**
Non-students	**0.50 EGP**

Tours

Opening Hours

Sunday – Wednesday	(from 09:00 am to 16:00 pm)
Saturday & Thursday	(from 09:00 am to 18:00 pm)
Friday	(from 15:00 pm to 18:00 pm)

Guided Tours Schedule

Saturday – Thursday 10:00 am + 11:00 am + 12:15 pm + 13:00 pm + 14:15 pm
+ additional tours on Saturday and Thursday at 16:45 pm and 17:45 pm

Friday 16:45 pm + 17:45 pm

- **Museum Tours are included in entry fees.**

Contests

The History of Science Museum hosts fun and interactive activities that help better explain the information displayed on the panels; these include games and quizzes, such as *Who am I?* and *Test your knowledge*.

- **The contests are available from Sunday to Thursday, from 10:00 am to 15:00 pm, however, reservation must be made at least one week before the desired date.**

- Target Age Group: 8-16 years
- Maximum number of participants: 50 students
- Duration: 45 min.

- **Museum Contest fees are 1 EGP per student**

Workshops

Within the mission and strategy adopted by the PSC, the History of Science Museum conducts a variety of workshops to facilitate and animate the information introduced in the Museum in a simple and fun manner.

- **The workshops are available from Sunday to Thursday, at 10:00 am and 12:00 pm, in addition to 17:00 pm on Thursdays only; however, reservation must be made at least one week before the desired date.**
- **Museum Workshop fees are 2 EGP per student**

This semester, the available workshops include:

Time Measurement (21 October - 1 November 2007)

Our Time Measurement workshop acquaints schoolchildren with the history of clocks, and helps them understand and recreate some of the different devices designed throughout history to measure time by themselves and use them too.

- **Target Age Group: 10-16 years**

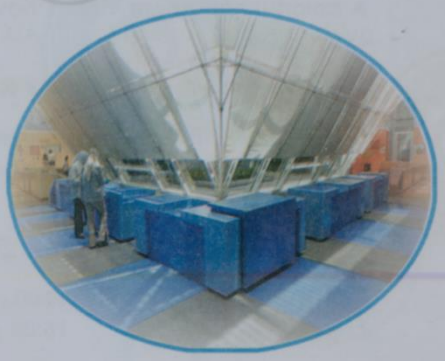
Astronomy (4-15 November 2007)

This workshop helps participants understand the answers to these questions:

What is a solar system?
Could you make your own solar system?
Could you make your own rocket?
Could you gain new information about astronomy without reading a book?

Our Astronomy workshop's goal is to help children discover space through a new, interactive and entertaining approach.

- **Target Age Group: 10-16 years**



Density (18-29 November 2007)

A workshop that presents the density theory and the floating bodies in an easy to understand manner that suits the target age group.

- **Target Age Group: 8-13 years**

Mathematics (18-29 November 2007)

In this workshop, the students will learn more about the mathematics of our predecessors.

- **Target Age Group: 10-15 years**

Coming Soon

Presentations

The History of Science Museum is currently preparing a variety of presentations, each of which focuses on a specific subject displayed at the Museum, with rich and detailed ideas and facts that are shown via data show. The presentations will be shown at different points in the Museum where visitors will be able to browse through their content freely.

Presentation themes will include, among other things: the Calendar, Archimedes, Astrolabes, Construction in Ancient Egypt, and Time Measurement in Ancient Times.

The presentations are scheduled to be available during the second school semester (2007/2008).

ALEXploratorium

The ALEXploratorium is a hands-on science facility that is unconventional, both in concept and operation. It primarily targets schoolchildren and youth who are the future and hope of any nation. It aims to intrigue them through attractive hands-on exhibits, exhibitions and workshops, all of which they can interact with, under the guidance and supervision of dedicated BA staff members who relay science principles in a fun manner.

ALEXploratorium activities are not limited to the young. They attract visitors, of all ages and backgrounds, to science by making it more accessible, easier to understand and far more interesting to relate to. Most importantly, they show the visitors how they can experience science in almost everything we see, hear or touch in our everyday life.

ALEXploratorium activities cover most of the principal science fields, such as Physics, Chemistry, Biology and Astronomy. The latter, being one of the oldest sciences that flourished during the supremacy of the Ancient Library of Alexandria, and is given special emphasis in all the activities of the PSC.

Discovery Zone

A colorful hall where visitors have fun experimenting the exhibits on display, under the guidance and supervision of ALEXploratorium specialists.

Opening Hours

Saturday – Thursday (from 09:00 am to 16:00 pm)
Friday (from 15:00 pm to 18:00 pm)

Guided Tours Schedule

Saturday – Thursday 10:00 am + 11:00 am + 12:00 pm + 13:00 pm + 14:00 pm + 15:00 pm
Friday 15:00 pm + 16:00 pm

- **Discovery Zone entry fees are:**

Students	2 EGP
Non-Students	4 EGP

Listen and Discover

Short and simple scientific documentary films are displayed according to a predefined schedule. The films are of a lively nature that attract audience and help them understand scientific issues in an appealing and interesting manner.

Show Times

Sunday – Thursday
10:00 am + 10:30 am + 11:00 am + 11:30 am + 12:00 pm + 12:30 pm + 13:00 pm + 13:30 pm + 14:00 pm + 15:00 pm

- **For the list of shows available at the "Listen and Discover", please consult the Center's official website: www.bibalex.org/psc**
- **For reservation, please contact the ALEXploratorium administrator at least one week before the desired date.**
- **"Listen and Discover" show fees are as follows:**

DVD shows:	
Students	1 EGP
Non-Students	2 EGP
3D shows:	
Students	2 EGP
Non-Students	4 EGP

New Attractions

The Power of the Sun

The past, the present and the future of Solar Energy, the most important alternative source of renewable clean energy.

Until about 2000 years ago, we humans largely depended for our energy needs on our own muscles, on animals, and on burning wood. When we ran short of wood, we discovered a marvelous source of energy stored in fossil fuels: coal, gas and oil.

However, we have come to be dangerously dependent on fossil fuels—even addicted to them. Not only does that accelerate global warming, we are likely to run out of cheap oil and gas by mid-century. Furthermore, coal, though much more abundant, is highly toxic.

So we must do something urgently!

One of our most promising solutions may be to turn back to our old friend—the Sun.

What can the power of the Sun do for us? Will it be a major part of the solution to the world's energy problem? Will it bring light and clean water to people in the developing world? Will it help us deal with global warming? It all depends on how we think about it ...

Are you going to be part of the solution?

The Power of the Sun is an interesting, rich, one-hour documentary that was presented to the BA by the eminent Nobel Laureate, Professor Walter Kohn during his visit to give a lecture on the same subject, as part of the Planetarium Science Center 2005 year long celebration of the World Year of Physics.

The film is available now, with English narration and Arabic subtitles, at the "Listen and Discover" auditorium, part of the BA ALEXploratorium.

Golden Age of Islam

From the ninth to the twelfth centuries, the Islamic world was the radiant center of civilization. It extended from Spain to India where the glorious cities of Baghdad, Cairo, Cordoba, Granada, and Damascus lie. Islamic science and culture were the resources for the occidental world during medieval times that eventually led to the European Renaissance.

Golden age of Islam is a French documentary written by Mohamed Hussein, and directed by Philippe Kaldiron. The film evolves around the Arab- Muslim science and its contribution to the evolution of science, through tracing the work of famous Arab scientists in eight episodes:

First chapter: an introduction to the history of Arab civilization, the beginning of Islam, and Arab conquests.
Second chapter: Baghdad, the capital of Arab culture *(once upon a time, a city called Baghdad)*.
Third chapter: Arab civilization in Andalusia; its architecture, the domination of Arab culture and the Arabic language *(the saga of Andalusia)*.
Fourth chapter: evolution of astronomy and mathematics in the Arab world, and the contribution of the Arab scientists, such as Al Khawarizmi, Ibn Al Haytham, and Al Bairouni, to those fields of science *(the sky, an open book)*.
Fifth chapter: medicine and pharmacology, and the contributions of Al Razi, Ibn Sinaa, and Al Zahrawi *(the secrets of the human body)*.
Sixth chapter: philosophy and judgment in Islam *(mullahs and philosophers)*.
Seventh chapter: the translation movement of the Arabic heritage to the European world *(from Arabic to Latin)*.
Eighth chapter: the decline of Arab civilization *(forgetting what is Arabic)*.

Workshops

Enjoyable practical workshops in all fields of science are constantly developed in an innovative fashion by ALEXploratorium specialists.

- **The workshops are available from Sunday to Thursday, at 10:00 am and 12:00 pm, in addition to 17:00 pm on Thursdays only; however, reservation must be made at least one week before the desired date.**
- **ALEXploratorium Workshop fees are 2 EGP per student**

This semester, the available workshops include:

Human Body (21 October - 1 November 2007)

This workshop is about the human body. Its experiments are about the lungs' capacity, the digestion operation, the DNA, the skeleton, the pulse and the stages of the embryo.

- **Target Age Group: 6-12 years**

Climate Change (4-11 November 2007)

There will always be uncertainty in understanding a system as complex as the world's climate. However, there is now strong evidence that significant global warming is occurring. The evidence arises from direct measurements of rising surface air temperatures and subsurface ocean temperatures, and from phenomena, such as increases in average global sea levels, retreating glaciers, and changes to many physical and biological systems. It is likely that most of the warming in recent decades can be attributed to human activities (IPCC 2001). This warming has already led to changes in the Earth's climate.

The workshop contains several experiments including causes of climate change and greenhouse effect, and others about atmosphere.

- **Target Age Group: 8-16 years**

Sound (2-13 December 2007)

Sounds are all around us . . . cars honking, phones ringing, friends talking, and dogs barking are all sounds you are probably familiar with. So, what is sound?

This workshop aims to facilitate the understanding of sound and to answer intriguing questions like:

How does sound travel?
Is there sound on the moon?
How do musical instruments work?

Some of the topics that we are going to discuss are Sound vibrations, Sound waves, the speed of sound in different mediums and sound frequency.

- **Target Age Group: 10-15 years**

Mechanics (2-13 December 2007)

This workshop is about mechanics. It introduces experiments about gears, pulleys, machines and how we can repair cars. We will provide information about the mechanical parts of the machines. We will help students gain more information about fuel cycle, dynamo and motor in machines and cars.

- **Target Age Group: 12-15 years**

Special Corners

SEED Corner

The Schlumberger Excellence in Educational Development (SEED) program and the Planetarium Science Center (PSC) at the Bibliotheca Alexandrina, joined forces to achieve their common goal of raising scientific awareness and enhancing the understanding of scientific facts among children and youth of Egypt. It is in this spirit of collaboration that the SEED corner was launched at the ALEXploratorium to host a series of scientific hands-on activities related to a certain chosen theme.

SEED is a program that presents workshops and activities. The age range starts from 10 to 16 years old. SEED is an educational program, each year we choose a certain educational topic, around which the activities evolve. This theme for the school year 2007/2008 is climate change and clean energy.

- Target Age Group: 12-16 years
- Number of participants per group: 10-20 students
- Number of sessions per program: 6
- Session Duration: 90 min. – once a week
- Session Time: 17:00-19:00 pm – each Thursday
- Each program includes two to three field trips
- **Program fees, including fieldtrips, are 75 EGP per student**
- **For reservation, please contact the ALEXploratorium administrator at least two weeks before the starting date (21 October 2007).**

RoboAlex center

The RoboAlex Center at the ALEXploratorium offers compelling hands-on robotic challenges. Guided by animators, the participating groups design, program, and test Robots on a special playing field to accomplish certain missions.

Every year, distinguished school groups wh o participate in RoboAlex center workshops are invited to compete in the FIRST LEGO League (FLL) in Egypt tournament. *(Read more about FLL in Egypt competition on page 11)*

- Target Age Group: 8-14 years
- Number of participants per group: 10-20 students
- Session Duration: 180 min. – once a week
- Session Time: 12:00-15:00 pm – according to reservation
- **Fees are 3 EGP per student per session**
- **For reservation, please contact the ALEXploratorium administrator at least two weeks before the desired starting date.**

Coming Soon

INTEL corner

Recently, the Planetarium Science Center has partnered with the Intel Education Initiative to work together on inspiring the next generation of innovators. Intel Corporation is a pioneer in pushing the boundaries of innovation, which is the motive behind the corporation's interest in the advancement of education. The goal of Intel Education Initiative is to provide school students with the tools needed to become the next generation of innovators (http://www.intel.com/education/), a goal that aligns with the PSC objectives. Thus, an agreement was signed between the two parties to join efforts working on:

1. **The International Science and Engineering Fair (Intel ISEF)** (http://www.sciserv.org/isef/index.asp), an international science competition that provides an opportunity for outstanding young scientists and inventors to come together to share ideas and showcase cutting-edge science projects. The competition recognizes the urgency of promoting achievement in science to students 14-18 years of age, and encourages innovation and creativity. The international competition occurs every year in the United States of America., bringing together students, teachers, corporate executives, and government officials from around the world to compete for over 4 million USD in scholarships, tuition grants, scientific equipment, and scientific trips. The Intel ISEF 2008 will be held 11-17May, 2008 in Atlanta, GA. Meanwhile, before competing at the Intel ISEF, students must compete in an Intel ISEF-affiliated science fair. This year, under the auspices of the Egyptian Ministry of Education, the PSC will co-organize with Intel Corporation the National Science Fair at the Bibliotheca Alexandrina.

2. **The Intel Learn Program**, which extends learning opportunities beyond the classroom, using an engaging, project-centered approach. The program helps young people develop skills and make connections that enrich their lives and prepare them to succeed in the knowledge economy. The goal of Intel Learn is to help youth, ages 8 to 16, develop 21st century skills, with a focus on digital literacy, critical thinking, problem solving, and team-work. Intel Learn has been already implemented in a big number of schools across Egypt, and to promote the program's objectives and goals, the PSC will be hosting it at the ALEXploratorium soon.

Programs and Events

"Golden Age of Islam" Festivity, 21 October 2007

This festivity celebrates the launch of the documentary "Golden Age of Islam" with Arabic narration *(Read more about the documentary on page 7)*. The event will include a series of lectures given by specialists and speakers that discuss the various themes presented in the movie.

- Target Age Group: 13 years and above
- Location: Delegates Hall, Bibliotheca Alexandrina Conference Center
- From 17:00 pm to 19:00 pm

Super Science Show

An independent workshop that is available only by reservation, the Super Science Show is a dynamic and highly motivational activity that gets the participating children involved in hands-on experiments that stimulate infectious enthusiasm. The show includes experiments in the fields of Physics, Biology, and Chemistry. It is a valuable and amusing show; do not miss it!

- Available on: Sunday – Tuesday – Wednesday
- Show Duration: 90 min.
- Target Age Group: 6-12 years
- Maximum number of participants: 50 students
- **Indoor Show fees are 75 EGP**
- **Outdoor Show fees are 150 EGP**
- **For reservation, please contact the ALEXploratorium administrator at least one week before the desired date.**

Fun with Science

Fun with Science is a program organized by the PSC in collaboration with the BA Young People and Children libraries. The program applies a series of fables containing messages that aim to provide children with a scientific basis, enabling them to make use of scientific facts as a creative tool. A major theme of the "Fun with Science" program is the introduction of "systems thinking". Children learn that everything in the world is interconnected and that thinking from a systems perspective influences choices and behavior.

The 1st part of the program is based on storytelling applying illustrated fables and a variety of creative activities. The 2nd part is based on hands-on scientific activities related to each fable content. Every 3 months we change the fable, so we chose the orange soap to be our next fable and next workshop.

- Target Age Group: 9-14 years
- Number of participants per group: 20-25 students
- Session Duration: 120 min. – twice a week (Sunday and Wednesday)
- **PSC workshop fees are 2 EGP per student per session**
- **Young People and Children Library entry fees are 0.50 EGP per student per visit**
- **For reservation, please contact the ALEXploratorium administrator at least one week before the desired date.**

Medicine in Ancient Egypt

Within the new strategy adopted by the History of Science Museum to transcend the basic function of a museum as a static exhibition, and become interactive by offering a diversity of activities that are related to the themes of the museum offering further information about it in an interesting manner. Among the activities offered by the museum are special programs and events, the latest of which is the "Medicine in Ancient Egypt" program. The objectives of this program are to present the contribution of Pharaohs in all fields of science and to develop the youth's interest in their heritage. The program includes a series of workshops, lectures and field trips.

- Target Age Group: 12-16 years
- Total of two groups, number of participants per each: 25-30 students
- Session Duration: 90 min. – twice a week (Thursday and Saturday)
- **Program fees (including lectures, workshops and fieldtrips) are 50 EGP per student**
- **For reservation, please contact the ALEXploratorium administrator at least one week before the starting date (21 October 2007).**

Science Club

Science clubs implement educational and scientific programs at schools; they aim to stimulate curiosity, interest and enjoyment in science and its methods of inquiry, to develop experimental and investigative abilities and develop children abilities and skills.

- Target Age Group: 12-15 years
- **Participation is for schools only. To join the Science Club, please contact the ALEXploratorium Administrator for details.**

Zoom Earth

This program comprises different kinds of educational activities, such as series of lectures, workshops and fieldtrips. The program mainly tackles topics such as irrigation, water pollution, meteorology, volcanoes and earthquakes.

- Target Age Group: 12-14 years
- Maximum number of participants per group: 50 students
- Session Duration: 120 min. – once a week (every Sunday)
- Session Time: 10:00 am – 12:00 pm
- **Group fees (25 students)are 75 EGP**
- **Group fees (50 students)are 150 EGP**
- **For reservation, please contact the ALEXploratorium administrator at least one week before the desired date.**

Zoom Earth Club

Zoom Earth Club is a scientific club targeting secondary and university students who are interested in satellites image studies, aiming to improve their knowledge, by performing activities on the subject and connecting with other groups and countries.

- Target Age Group: 16-22 years
- Maximum number of participants: 25 students
- Meetings and Activities will take place on the following dates:
  - 29/10/2007
  - 26/11/2007
  - 31/12/2007
- **Participant fees are 75 EGP**
- **For reservation, please contact the ALEXploratorium administrator at least two weeks before the start of activity.**

FIRST LEGO League in Egypt

Catching up with the world of technology

The result of an impressive alliance between FIRST *(For Inspiration and Recognition of Science and Technology)* and LEGO, FIRST LEGO League (FLL) is an international hands-on, sport-like, robotics program for children 9-14 years of age.

Guided by mentors and their own imagination, FLL students solve actual engineering challenges, develop important life skills, and learn to contribute positively to society, enhancing characteristics such as team-building, problem solving, analytical thinking and creativity.

Every September, a new Challenge is unveiled and over the course of 8 weeks, the FLL international teams strategize, design, build, program, test and refine a fully autonomous robot capable of completing the mission. During the process, teams search the web, talk to scientists, visit the Library and develop presentations that relate to a problem or opportunity facing the world today.

The first FLL in Egypt Competition was organized by the PSC in cooperation with the IEEE GOLD Egypt (Institute of Electrical and Electronics Engineers). The aim of the "*Ocean Odyssey Challenge*" was that the participants apply science and technology to better understand the oceans; the importance of which was tragically enhanced by the tremendous losses associated with the recent Tsunami in the Indian Ocean. Four school teams participated in this Challenge. They trained for two months in the RoboAlex lab in the ALEXploratorium; and on the day of the finale, 9 February 2006, they presented the results. All participants received medals and a special LEGO trophy was awarded to the leading teams.

The mission of the second FLL in Egypt Competition was the "*Nano Quest*". Nanotechnology is a new scientific frontier that will impact many facets of society, from medicine to computers to the environment. Nanotechnologists move atoms and molecules around to produce amazing new discoveries; scientists believe that someday nanotechnology will allow us to cure diseases using devices small enough to travel through the human body; others believe it will allow us to travel into space.

The finale took place on 14 December 2006; fourteen teams from all over Egypt participated. All participating teams received honorary certificates, and the four teams with the highest scores were awarded special trophies and medals. The highest score belonged to the team of Meharam Bek school from Alexandria, which was thus nominated to represent Egypt in the FLL 2007 International Competition.

The Egyptian team was one of only three Arabian teams participating in the international competition; the other teams were from Saudi Arabia and Jordan. The Egyptian team succeeded in three tests, including presentation, technical skills, and team work. As for the mission competition, the Egyptian team participating for the first time in an international competition of that caliber occupied the 91st position.

Details of the new challenge will soon be posted on the Center's website (www.bibalex.org/psc). Preparation for the Third FLL in Egypt Competition will start by the end of October 2007.

Bibliotheca Alexandrina Celebrates Women in Science

WOMEN In Science 2007

(23-24 October 2007)

"The thing women have to learn is that nobody gives you power; you just take it."
Plato (427-347 BCE)

"If women are expected to do the same work as men, we must teach them the same things."
John W. Gardner (1912-2002)

In the world of globalization, more emphasis is being put on enhancing Science and Technology capacity in the developing nations. A goal that could only be achieved through the mobilization of all human resources in these nations. The recognition of the role of women as key players is crucial towards the success of this endeavor.

Women are a great human resource any country has, and the role of women in society is critical for development. Women have a greater influence on the next generation, they set the standards for health and hygiene and they form the majority of the agricultural labor force. To educate women is to educate the next generation. Girls should be encouraged to study scientific subjects, not just to pursue a scientific or technological career, but also to be able to apply scientific concepts in their daily lives. Studying scientific subjects should not only be seen as a vocation but as a means to develop the scientific and technological culture necessary for development. Providing encouragement and opportunity for girls and women in science and engineering is a necessity for enhancing science and technology capacity in developing countries.

The role of women in the production and sharing of knowledge that contributes to improving people's economic status and quality of life has been limited. Furthermore, the contribution of outstanding women in scientific research has not been fully recognized. This lack of recognition has resulted in inequity of access by women to the research professions. The further lack of prominent women scientists as role models has hampered both the public understanding of Science, Engineering, and Technology, and the participation of women at all levels of science.

As women they face social and institutional barriers to getting to the top of the scientific career and as a result they do not have equal chances to contribute to shaping research priorities. These barriers stem from the traditional roles and stereotypically perceived qualities of men and women. The traditional division of roles and labor, both outside and inside the family has witnessed only a minor change. Many women, as well as men, scientists are faced with the consequences of isolation and exclusion from scientific developments, resulting in a lack of networking, required skills and self-confidence necessary for participation in international research projects. As long as women are facing marginalization or even discrimination, there is work to be done.

To highlight the importance of the role of women, the Bibliotheca Alexandrina celebrates its fifth anniversary by organizing the "Women in Science" conference that will take place 23-24 October 2007. The Library is inviting eminent persons and practicing scientists from all over the world to discuss various pertinent and pressing issues, namely:

- Education of Women (biases, segregated schooling, streaming into Arts and Sciences, and disciplinary biases);
- Teaching and Research (universities, and research in commercial labs);
- Women in Executive and Managerial Positions (public/private sector, education, NGOs, foundations, academies, commercials, and think tanks);
- Social Context (balancing home and career, remuneration and promotion, career counseling and mentoring, and societal pressures); and
- Applications of Science to benefit Women (women in rural areas, women in urban areas, environment, employment and empowerment).

For more information, please visit the conference official website:
www.bibalex.org/wis2007