

**Homi Jehangir Bhabha: Visionary and Pioneer (1909 – 1966)**



Homi Jehangir Bhabha was one of India's most eminent nuclear physicists. Bhabha was born and did his schooling in Mumbai. Mathematics and theoretical physics intrigued him and the pursuit of his passion led him to a doctorate in nuclear physics in 1933. In recognition of his significant contributions to the field of quantum mechanics, cosmic rays and elementary particles, Homi Bhabha was elected Fellow of the Royal Society (London) in 1941.

He was instrumental in setting up prestigious research centres in India like the Tata Institute of Fundamental Research (TIFR), Bhabha Atomic Research Centre (BARC), and Cosmic Ray Research Unit at Indian Institute of Science in Bengaluru. Colloquially known as "Father of the Indian Nuclear Programme", Bhabha was appointed Chairman of the International Atomic Energy Commission in 1948 and also represented India in IAEA conferences, and served as President of the United Nations Conference on the Peaceful Uses of Atomic Energy in Geneva, Switzerland (1955). Being the multi-faceted personality he was, he also dabbled in art and music; was a painter and a classical music and opera enthusiast, besides being an amateur botanist!

Image Source: Wikimedia Commons

\* HAPPY \*  
\* BIRTHDAY \*



**Soriya Theang**  
Cambodia



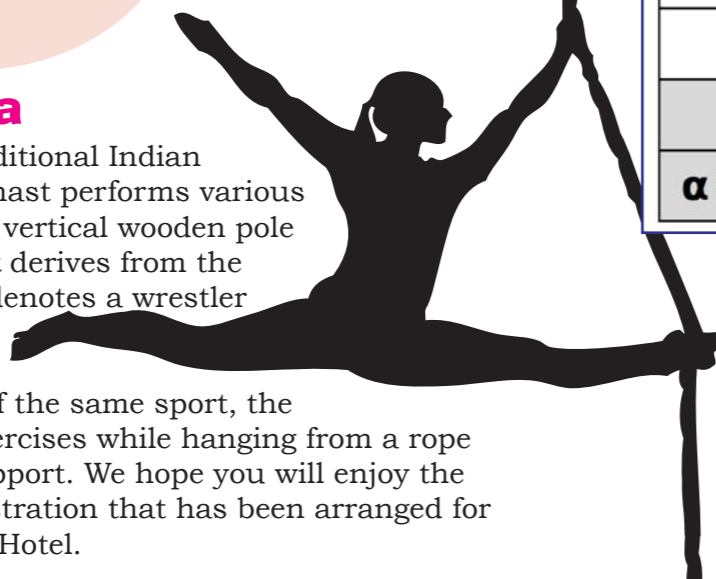
**Anton Igorevich Talkachov**  
Belarus

Why didn't the Dog  
Star laugh at the joke?  
It was too Sirius



**Mallakhamba**

Mallakhamba is a traditional Indian sport in which a gymnast performs various acrobatic feats with a vertical wooden pole or rope. Mallakhamba derives from the terms "malla" which denotes a wrestler and "khamba" which means a pole. In a different variation of the same sport, the gymnast performs exercises while hanging from a rope suspended from a support. We hope you will enjoy the Mallakhamba demonstration that has been arranged for students at the Leela Hotel.



**SYMBOL SU-DO-KU**

Fill in the grid so that every horizontal row, every vertical column and every 2x3 box contains the symbols ( $\alpha, \beta, \gamma, \theta, \phi, \Omega$ ) without repeating the symbols in the same row, column or 2x3 box.

|          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|
| $\phi$   |          |          |          |          | $\theta$ |
|          | $\gamma$ |          |          | $\phi$   |          |
|          |          | $\Omega$ | $\alpha$ |          |          |
|          |          | $\phi$   | $\gamma$ |          |          |
|          | $\phi$   |          |          | $\alpha$ |          |
| $\alpha$ |          |          |          |          | $\beta$  |

**ANSWER TO YESTERDAY'S PUZZLES**

**GUESS WHO:** ANU

**WORDS UNSCRAMBLED:**  
ANGSTROM, AVOGADRO,  
CYCLOTRON, GRAVITY,  
FRICTION, QUANTA

*"The first principle is that you must not fool yourself and you are the easiest person to fool"*

Richard P. Feynman



**Reflections**  
IPhO 2015 NEWSLETTER



**Today's Attraction (Leaders)**

**Tour of South Mumbai**

You will be visiting the southern most precinct of Mumbai city today. South Mumbai hosts the main business headquarters of numerous multinational companies as also the Reserve Bank of India and the Bombay Stock Exchange. A striking feature of South Mumbai is its architecture. Some of the finest heritage buildings of the colonial era influenced by the Victorian-Gothic style of architecture can be seen here. During the tour, you will also see the "Gateway of India", a monument located at the sea front, which historically and symbolically served as an entrance to India. You will notice that South Mumbai has no auto-rickshaws, unlike the rest of the city. Only black and yellow taxis/cabs and private cabs are permitted in this region.

The Chhatrapati Shivaji Maharaj Vastu Sangrahalaya is a premier art and history museum in Mumbai. The museum building itself is an example of the Indo-Saracenic style of architecture. This heritage building has a world-class art collection, rotating exhibits, outreach and educational programmes, and one can endlessly wander through the galleries of the museum!

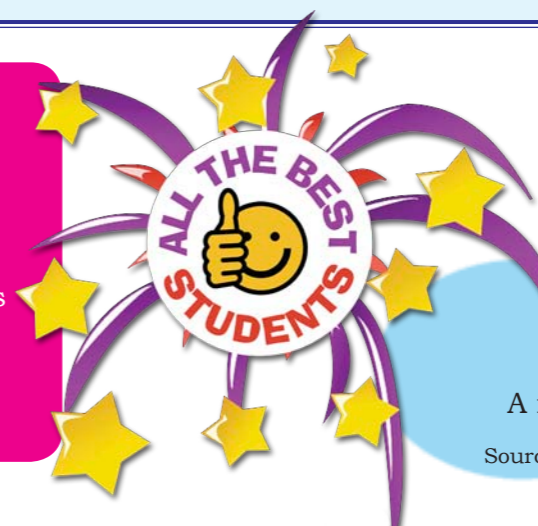
South Mumbai is a paradise for street shoppers. The Colaba causeway officially known as Shahid Bhagat Singh Road, has numerous street vendors who sell scarves, clothes, shoes, sandals, sarongs, silver jewellery and ornaments. But be warned, unless you are a great bargainer, it is advisable to shop from government Emporia or Fixed Price shops to ensure quality and reasonable prices. Do be careful when street shopping, since you can be conned with fake goods. For those who love food, this place also has a plethora of multi-cuisine restaurants!

Enjoy a day of walking, sight-seeing, shopping and eating!

**Today@IPhO**

**Leaders:** Sightseeing at South Mumbai  
Departure at 0830 hrs

**Students:** Experimental Exams at the Bombay Convention & Exhibition Centre, Goregaon  
Departure at 0800 hrs



**Weather Forecast**

**Temperature**  
Max: 33°C / 91.4°F  
Min: 27°C / 80.6°F

A few spells of rain could occur  
Source: Regional Meteorological Centre, Mumbai





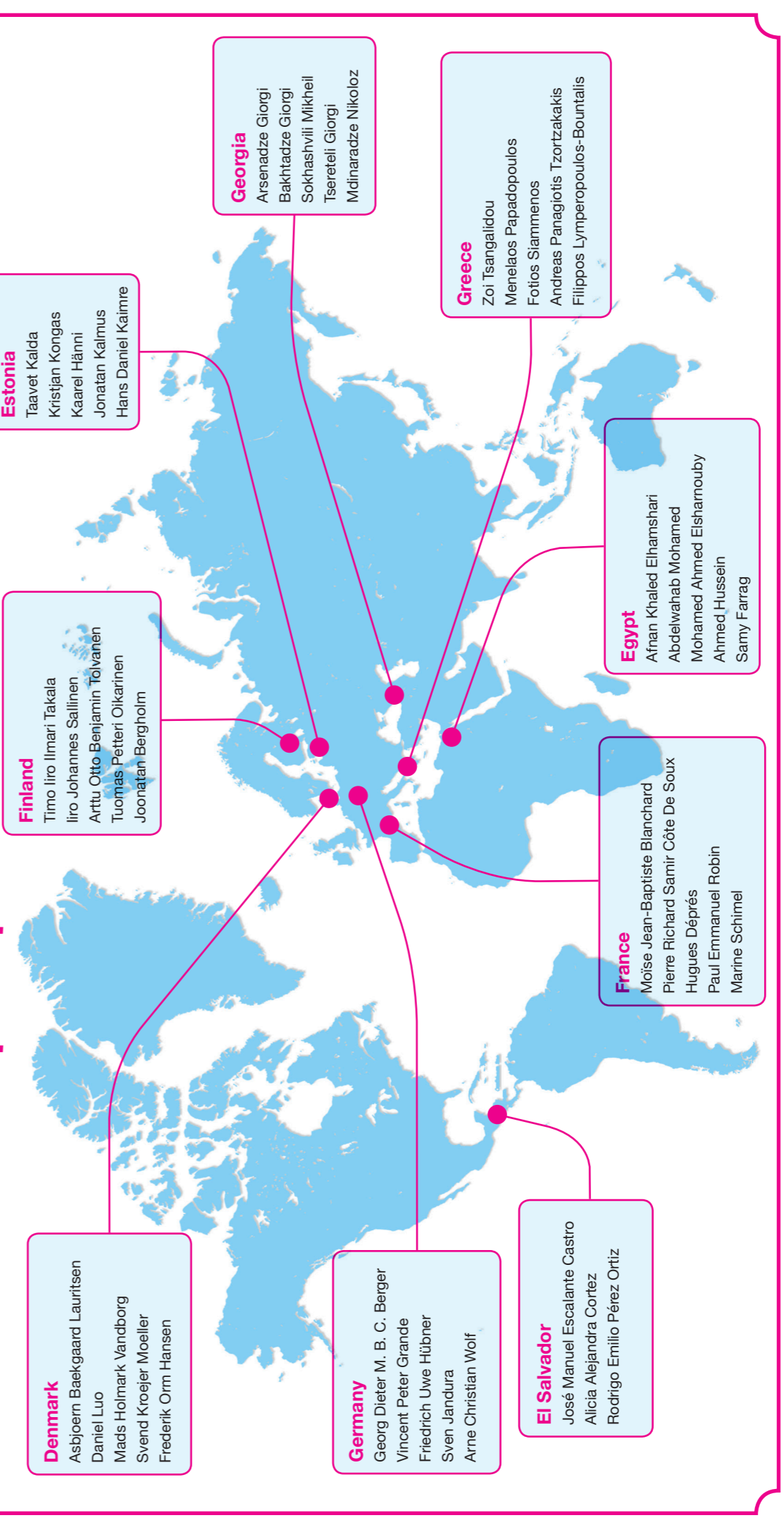
While the Leaders & Observers were busy in the IB-Meeting, Students were having fun!

Star Struck!

Astronaut Scott Choi

Slovenian team rediscovering their physics during the excursion!

## Rendezvous with IPhO participants



**Denmark**  
 Asbjørn Baekgaard Lauritsen  
 Daniel Luo  
 Mads Holmark Vandborg  
 Svend Kroejer Moeller  
 Frederik Orm Hansen

**Germany**  
 Georg Dieter M. B. C. Berger  
 Vincent Peter Grande  
 Friedrich Uwe Hübner  
 Sven Jandura  
 Arne Christian Wolf

**El Salvador**  
 José Manuel Escalante Castro  
 Alicia Alejandra Cortez  
 Rodrigo Emilio Pérez Ortiz

**Finland**  
 Timo Iiro Ilmari Takala  
 Iiro Johannes Sallinen  
 Arttu Otto Benjamin Tolvanen  
 Tuomas Petteri Oikarinen  
 Joonatan Bergholm

**Georgia**  
 Arsenadze Giorgi  
 Bakhtadze Giorgi  
 Sokhashvili Mikheil  
 Tsereteli Giorgi  
 Mdinardze Nikoloz

**Greece**  
 Zoi Tsangalidou  
 Menelaos Papadopoulos  
 Fotios Siammenos  
 Andreas Panagiotis Tzortzakakis  
 Filippos Lympieropoulos-Bountails

**Egypt**  
 Afnan Khaled Elhamshari  
 Abdelwahab Mohamed  
 Mohamed Ahmed Eishamouby  
 Ahmed Hussein  
 Samy Farrag

**France**  
 Moïse Jean-Baptiste Blanchard  
 Pierre Richard Samir Côte De Soux  
 Hugues Déprés  
 Paul Emmanuel Robin  
 Marine Schimeï

### YOU SPEAK!

I liked the planetarium and wishing all the best to everyone for the exams tomorrow!  
**Thao Thi Huong Dinh**  
 Vietnam

I liked the astronomy show. You all must be very proud of your first Prime minister Pandit Jawaharlal Nehru; I have read his quotes and famous writings. Really amazing.  
**Miroslav Gasperek**  
 Slovakia

I am looking forward to the gold medal, making friends, understanding different cultures.  
**Jaswin Jaswin**  
 Indonesia

IPhO is a great opportunity to meet people from all over the world and it is also important in the interest of science.  
**Antonio Guirao**  
 Spain (Leader)

India is big and beautiful. It is similar to my country but just bigger.  
**Veronica Subieta**  
 Bolivia (Leader)