



**WELCOME TO THE ROBO WORLD**

in partnership with





“I envision a Earth-Moon-Mars complex by 2050.”

**Dr. A.P.J. Abdul Kalam (1931-2015)**



“We have made remarkable progress in the last 100 years, but if we want to continue beyond 100 years, our future is in space.”

**Stephen Hawking (1942 - 2018)**



## WHO ARE WE?

### **We make science easy to understand!**

Homi Lab is the nation's first future learning lab designed to produce the next generation of pioneers - who will walk on Mars and those who will cure the planet and humankind. We believe that children are all unique in their ways, it does not matter what grades they get, every child, with the right guidance, has the chance to shape the future and find their place in the books of history.

We aim to ignite the curiosity, creativity and passion for science in learners and serve as a medium for bridging the gap between the scientific community and the common masses.

## WHY HOMI LAB?

### **???** Debunking Myths

We educate people about the mystical science which takes place beyond the sky and help them break the chains of ignorance.

### Igniting Minds

We enable the child to harness its curiosity to the full potential and approach not just the science but life also with an inquiry-driven attitude.

# INTERNATIONAL ASSOCIATIONS



## Mine Analogue Research (MINAR)

MINAR is an underground extra-terrestrial analogue research program which is carried out in a two kilometre underground astrobiology laboratory at Boulby Mines, United Kingdom. In every expedition, around 30 scientists and researchers from institutions across Europe, NASA, the SETI Institute, Australian Space Agency (ASA) and the Kalam Centre-India gather to develop science and technology for the robotic and human exploration of Mars and the Moon. So far 7 expeditions of the MINAR have been organized to test rovers, life support system, radiation impact on life, low water life support, soil mapping, weather forecasting on Mars and several challenges which humankind is expected to face as we settle on the Red Planet.



Asteroid Search Campaign is an educational outreach program conducted by the International Astronomical Search Collaboration (IASC) which provides platform for students to make original astronomical discoveries and participate in hands-on astronomy.



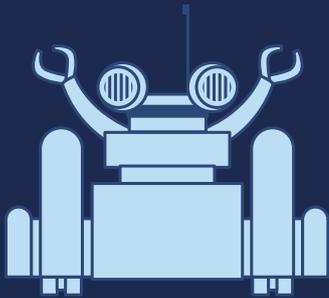
Sally Ride ISS EarthKAM is an international educational programme of NASA through which students can receive images of the Earth from a digital camera mounted in the International Space Station (ISS). We conduct workshop in schools teaching them imaging Earth from a unique perspective of space.

# WELCOME TO THE **ROBO** WORLD



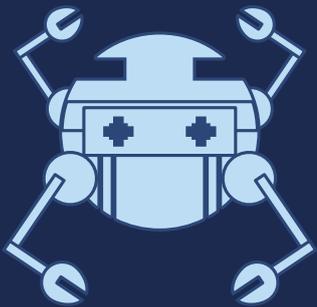
It is a very true slogan from the “Adidas” brand, “Nothing is Impossible”. Human abilities are limited, and that is why robots are created. Have you ever imagine that, when you wake up in the morning, once you open up your eyes, everything that is in your mind such as breakfast, office wear, slippers and even more have already been prepared by your “robot-slave”. You do not have to do anything; all you have to do is, sit and wait! You just have to sit on your bed and wait for your robot to serve you, aren’t your life will be easier and wonderful? From this, we can see that how amazing it could be with the existence of robots. May be in the future, they are only our trusted friends.

## We offer three modules under this course



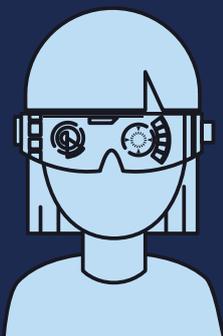
### Getting Started

Although the science of robotics only came about in the 20th century, the history of robots and human-invented automation has a much lengthier past. Where did the term robot come from? What are the components of a typical robot?



### Anatomy and Applications

Not all robots walk and talk; some simply do their job and are not designed to speak or interact with humans. Robots in the modern world fulfill a wide variety of tasks. Robotic applications are now being used in a variety of industries.



### Smart and Intelligent Robots

In the very next decade, robots will become vital components in a number of applications, and robots paired with AI will be able to perform complex actions that are capable of learning from humans, driving the intelligent automation phenomenon.

# COURSE INCLUDES



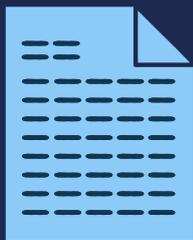
## Live Online Sessions

School goes online! This summer delve deeper into the world of robotics through a series of classes conducted online.



## Exciting Videos & Presentations

Get a visual treat to understand complex and difficult scientific phenomenon and process in simplified manner.



## Customised Handouts

Digital handout for each session which includes interesting facts and stories, activities to do and recap of the sessions.



## Guest Lectures

Apart from these sessions, there would also be some guests lecture by international and national experts.



## Interactive Quizzes

Solve the quiz and test your knowledge at the end of each session. Show your score to your friends and challenge them.



## e-Certification

On successful completion of the course, you will be issued an e-certificate.

# WELCOME TO THE **ROBO** WORLD

Young Engineers Of Tomorrow

**What is a ROBOT?**

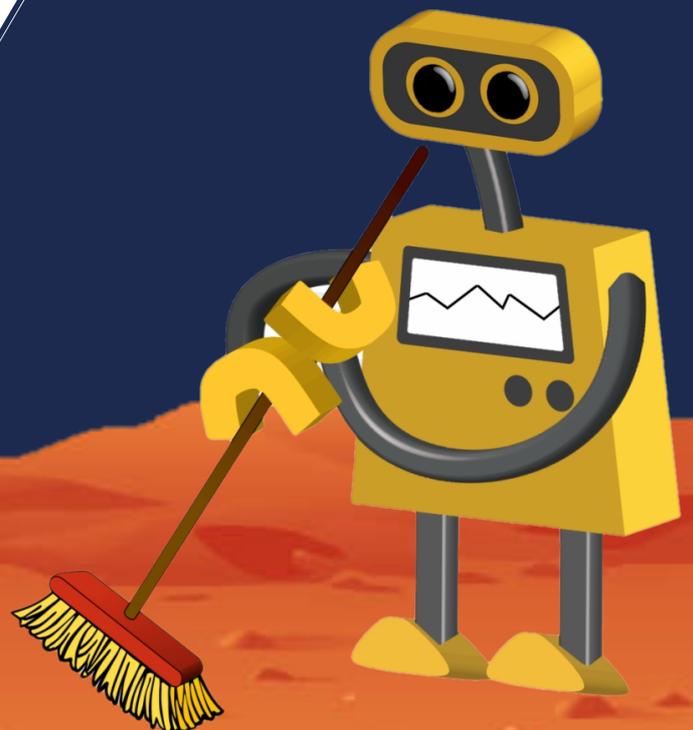
**Understanding Working**

**Peeking Into... (1)**

**Peeking Into... (2)**

**Humanoid World**

**Future of Robotics**



# MISSION CONTROL



## CAPTAIN: SRIJAN PAL SINGH

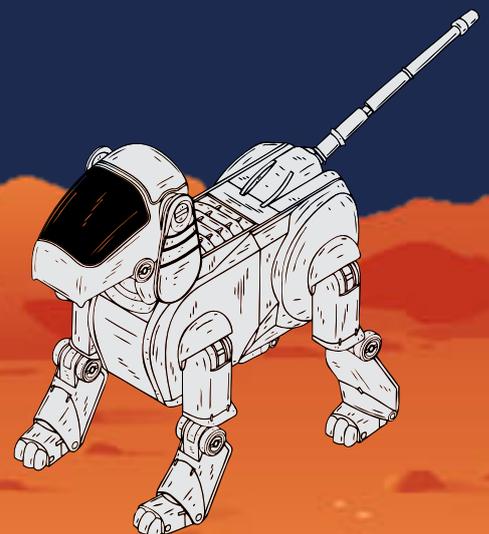
Srijan Pal Singh is an author, public speaker, education innovator and social entrepreneur. He served as the Officer on Special Duty and Advisor (Policy and Technology) at the Office of Dr. APJ Abdul Kalam where he worked as a close aide to the former President on various consulting works.



## PREKSHA SETHIA

Preksha Sethia is a physical science graduate and space enthusiast. She worked as research assistant for Reignited 2, a sequel to Reignited written by Dr. A.P.J. Abdul Kalam, 11th President of India.

- **The course consists of 06 sessions and is offered in English.**
- **Each session would be 45-50 minutes.**
- **Recommended Age Group: 10 years onwards**



# THINGS YOU WILL BE FLUENT ABOUT AFTER THIS COURSE

Robots

Nadine

Rover

Cyborg

Humanoid

Automation

Industrial

Sophia

Sensory  
System

Arm

Antikythera

Sensors

Android

Robonaut

Gynoid

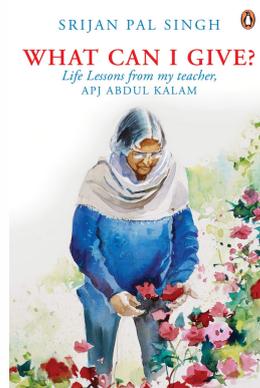
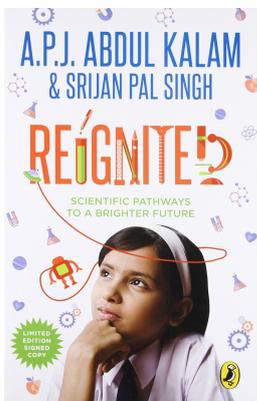
Wheeled  
Robots

Rashmi

Biomimicry

And much  
more...

Nanobots



COURSE TO BE TAUGHT BY  
AUTHOR OF THESE BOOKS



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