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Guest Lecture Organized by Astronomy Club, Department of Aeronautical Engineering

Guest Lecture on 'To the Moon and Beyond'

The Department of Aeronautical Engineering, MVJCE, organised a Guest Lecture on '**To the Moon and Beyond (A Neil Armstrong Retrospective and Perspective)**' by Dr.Jayant Murthy, Director, Indian Institute of Astrophysics, 2nd Block, Koramangala, Bengaluru.

The session was conducted at Seminar Hall 4, from 2.00 pm to 4.00 pm, on 29.03.2019.

Participants

The guest lecture was attended by 105 members of the Astronomy Club, MVJCE.

About the Speaker

Dr. Jayant Murthy, Director, IIAP, obtained his PhD in Physics from Johns Hopkins University, in 1987, on a project to understand interstellar gas near the Sun. He worked for 2 years as a National Research Council Fellow at NASA's Goddard Space Flight Center, after which he returned to Johns Hopkins as a Research Scientist. At JHU, he worked on a number of spacecrafts (Voyager, Hubble Space Telescope, FUSE ...). He joined the Indian Institute of Astrophysics in 1999, where he is now a Director and Senior Professor.

Dr. Murthy has published over 100 papers in scientific literature. He has guided more than a dozen students for their PhD, as well as many others for their student projects. He is now involved in building small scientific payloads for space flights, at IIA, in addition to his regular research on the ultraviolet sky.

A brief account of the contents of the Lecture

The Lecture started with a brief introduction to the memorable Neil Armstrong video footage on the moon – the impact of Neil Armstrong as the First man on the moon, before and after sputnik.

Introduction

Possibly the most iconic quote of the 20th century was from Neil Armstrong: "That's one small step for a man, one giant leap for mankind." Watched by 600 million people, that small step was

responsible for many people choosing a career in the Sciences! As President Obama said, "Neil Armstrong was a hero not just of his time, but of all time. Thank you, Neil, for showing us the power of one small step."

Before and after Sputnik

The 1960s were a heady time for space flight. Sputnik had ignited the Space Race; John F. Kennedy made his historic speech: "... the goal, before this decade is out, of landing a man on the Moon and returning him safely to the Earth." There were expectations, fed by the Golden Age writers of science fiction, that we would have colonies, if not full-fledged cities on Mars and even Ganymede.

The Space Race

50 years later, only 12 men have ever walked on the Moon. Four are still alive, with the youngest being Charles Duke (83 years old). Here is a description of the achievements of the manned space program over the last 50 years, with special focus on the Apollo program, and prospects for the future.

Before the end of the decade:

There was a special message to the Congress on urgent national needs. The Needling disaster occurred on 24thOctober 1960 under the guidance of Air Marshal. Mercury seven was the group of seven astronauts for project mercury announced by NASA on April 9, 1959. Project Gemini was NASA's second human space flight program.

Apollo Program:

This was the largest program, at a budget of 24 billion dollars, 4 lakh people, involving 20,000 universities and companies. NASA Administrator James had done the ground test for Apollo 1 and this became the end of space race. And the last man on the moon was Gene Cernan in 14/12/1972.

The Beginning of the Sciences:

In the late 60s, the first astronomical satellites were used to identify Ultra violet rays, X-rays and Gamma rays. The meaning for Nebula is the formation of new starts in the universe. The big bang theory is the prevailing cosmological description of the development of the universe.

Space Shuttle Program:

Columbia space shuttle was launched on 12/4/1981 and Challengers on 28/1/1986, Atlantis was launched on 8/7/2011. After that no more space shuttles were used. Nowadays, only International Space Station is used to explore the universe.

Current Space Flight:

By 2021, a new space station will be developed either by Chinese or Space–X. Private Space flight will be launched in the future. Legacy of Whitey's on the moon in 1960's is the popular song which describes the astronomical technologies.

Guest Lecture on " To the moon and Beyond" organized by Astronomy Club, Department of Aeronautical Engineering at Seminar hall 6 on 29th March, 2019: chief guest Dr. Jayant Murthy, Director, IIAP, Bangalore. addressing students during intrection

Guest Lecture on " To the moon and Beyond" organized by Astronomy Club, Department of Aeronautical Engineering at Seminar hall 6 on 29th March, 2019: Prof. & HoD S C Gupta, Aeronautical Dept, MVJCE, handing over the momento to the chief guest Dr. Jayant Murthy, Director, IIAP, Bangalore.

Outcome of the Event:

The lecture enabled students to enhance their understanding of the International Space Station, and the current technologies used in International space station. It also helped augment the students' innovative thinking about astronomy and space-related problems, a thinking which will help them to become future Scientists.