



भौतिक अनुसंधान प्रयोगशाला, अहमदाबाद Physical Research Laboratory, Ahmedabad

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75_PRL Ka Amrut Vyakhyaan

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**“Vikram Sarabhai and
Indian Space Programme”**

Shri A S Kiran Kumar

Chairman, PRL Council of Management
Vikram Sarabhai Professor, ISRO, Bengaluru
Member, Space Commission, Govt. of India
Former Secretary, Department of Space, Govt. of India
Former Chairman, ISRO, India
Former Director, Space Applications Centre, Ahmedabad

Venue: K R Ramanathan Auditorium,

PRL Main Campus, Ahmedabad



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Title: “Vikram Sarabhai and Indian Space Programme”

Speaker: Shri A S Kiran Kumar

Chairman, PRL Council of Management, Vikram Sarabhai Professor, ISRO, Bengaluru, Member, Space Commission, Govt. of India

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Abstract

Vikram Sarabhai a man of many dimensions, an outstanding scientist deeply concerned about the country's need to provide science and technology based solutions to the problems faced by society and citizen's of a country which was grappling with governance as an independent nation after emerging from centuries of external rule. In the space programme one of his many dreams was to use national satellite programme to provide a better way of life to the 630000 villages of India. He had hoped by the research and development activities of the space programme that television would be available to 80% of India's population in ten years. This project was of special significance because by providing entertainment and instruction of high quality it would be possible to bring about a quantitative improvement in the richness of rural life. He often used to say that “I have a dream, a fantasy may be that we can leapfrog our way to development”. And over the years he showed his capacity to leapfrog many decades and translate many of his dreams into realities. Visualizing the ability of objects going beyond earth to provide solutions to the problems we faced and the use of emerging disruptive technology of space were indeed acts of great impact and the manner in which he facilitated its role out in the country needs to be remembered by us even as we complete 75 years of existence as independent India and further as we look at navigating through the 'Azadi ka Amrut mahotsav' and reach the landmark of 2047.

The Speaker

Shri A. S. Kiran Kumar is Vikram Sarabhai Professor at ISRO, Bangalore and Member of the Space Commission, Govt of India. During 2015-2018, he has served as Secretary, Department of Space and Chairman, Indian Space Research Organisation. Shri Kiran Kumar, born on October 22, 1952 in Hassan, Karnataka, holds M.Sc. Degree in Physics (Electronics) from Bangalore University and M.Tech. Degree in Physical Engineering from Indian Institute of Science, Bangalore. He has steered the implementation of the applications oriented Indian Space Programme, which has facilitated rapid development of the country in many important spheres of earth observation, communication, navigation, meteorology and space science, as well as the development of indigenous launch vehicles and related technologies for providing assured access to space. He has led design and development of more than 50 Electro-Optical Imaging Sensors flown on various Space borne platforms starting from Bhaskara in 1979. Further, his role in the success of Chandrayaan-1 mission and Mars Orbiter Mission has been significant. Shri Kiran Kumar has been the Chair of the Committee on Earth Observation Satellites (CEOS) in 2012. He has made valuable contributions to Coordination Group of Meteorological Satellites (CGMS), Expert Team on Satellite Systems – World Meteorological Organisation (ETSAT of WMO) and Indo-US Joint Working Group on Civil Space Cooperation. Shri Kiran Kumar is the Past President, Aeronautical Society of India and Fellow of Indian National Academy of Engineering, National Academy of Sciences India, Indian Society of Remote Sensing, Institution of Electronics & Telecommunications Engineers, Indian Society of Systems for Science & Engineering, Indian Meteorological Society, Indian Society of Geomatics, Gujarat Science Academy, Andhra Pradesh Akademi of Sciences and an elected member of International Academy of Astronautics. He has been conferred with Honoris Causa and DSc by 18 Indian academic institutions. He has co-authored 85 publications in various national/international scientific journals/conferences/symposiums.

In recognition of his contributions, he was conferred Padma Shri by the President of India in 2014. Other notable honours conferred on him include, Rajyostava Award by for 2015, 'Sir M. Visvesvaraya Senior Scientist State Award' for 2013 by Government of Karnataka, Lifetime Achievement Award from Karnataka Science and Technology Academy in 2016, IISc Distinguished Alumnus Award for 2015, Gujarat Ratna 'Life for Innovation' Award conferred by Gujarat Innovation Society in 2014, Lifetime Achievement Award by Andhra Pradesh Akademi of Sciences in 2016, Bharat Ratna Sir M. Visvesvaraya Centenary Award by University of Mysore in 2016, G.M. Modi Science Award in 2016, H K Firodia Vijnan Ratna Award in 2017, Santokbaa Award instituted by SRKKF Surat in 2018 and ISRO Lifetime Achievement Award 2018. He has been conferred with the prestigious 2018 International von Karman Wings Award instituted by the Aerospace Historical Society, together with the Graduate Aerospace Laboratories at the California Institute of Technology, in 2018 and the Chevalier de l'Ordre national de la Légion d'Honneur – the highest civilian honour by the Government of France in 2019.



About PRL

The Physical Research Laboratory (PRL), known as the “cradle of space science” in India, is one



of the premier research institutes founded in 1947 by Prof. Vikram Sarabhai, a renowned Cosmic Ray Scientist, a great visionary and institution builder. PRL played a seminal role in producing a highly motivated cadre of space scientists and the technologists of highest international repute. The first scientific rocket launched from Thumba on 21st November-1963 and many other rockets launched thereafter contained payloads developed at PRL. Dr. Sarabhai initiated many of these scientific and technical activities at PRL which eventually led to the formation of the Indian Space Research Organization (ISRO). Therefore, PRL is known as the “cradle of space science” in India. Further, the research in the area

of Plasma Physics expanded to the formation of the Institute of Plasma Research (IPR).

As an institution PRL is unique in that it conducts fundamental research in a wide range of research areas from the Earth to the cosmos, and comprising Astronomy and Astrophysics; Solar Physics; Space and Atmospheric Sciences; Theoretical Physics; Geosciences; Atomic, Molecular and Optical Physics, Astrochemistry; and Planetary Sciences and Space Exploration. PRL is one of the rare research institutes of international repute wherein research in such diverse fields of sciences is carried out using several state-of-the-art experimental facilities that exist under one umbrella.

Along with the ongoing research, several new initiatives have been taken up during the last few years. The Multi-Application Solar Telescope (MAST) at Udaipur Solar Observatory has been operationalized. PRL initiated scientific programmes in frontier areas of research, which include a search for exo-planets, laboratory studies of interstellar grains, laboratory synthesis of cold astro-molecules and experimental studies in the field of quantum optics. PRL is also developing several scientific payloads as a part of ISRO’s larger vision and contributing to roadmap for competitive scientific exploration of the solar system and beyond. In particular, PRL has been contributing significantly not only in building instruments for space missions, such as Chandrayaan-1, Chandrayaan-2, AstroSat and upcoming Aditya-L1, Chandrayaan-3 and planetary and space missions, but also by bringing out new and insightful science results.

PRL contributes to several national and international research programmes and to human resource development through its Doctoral and Post-Doctoral Programmes, capacity building programmes, such as UN Course on Space Science, and science and engineering internship programmes. PRL contributes significantly to society through its Outreach Programmes by periodically organizing science exhibitions and Open Houses, planned visits of students of various school and college to PRL, and popular talks at various institutions to not only share the excitements of the advancements of contemporary scientific findings but also to encourage students to take up sciences as their research career.

