



IIST @ SCHOOLS

REPORT ON 3 DAY RESIDENTIAL SPACE SCIENCE *Camp*

2026 April 18 - 20 | Mysuru





REPORT

ON THE IIST@SCHOOLS THREE-DAY RESIDENTIAL SPACE SCIENCE CAMP 2026

Organized by the Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram, in collaboration with ARSHA Space School, Mysuru, in commemoration of the 1550th Birth Anniversary of Aryabhata (476–550 CE)

Venue : Swami Vivekananda Youth Movement Campus, Mysuru, Karnataka.

Dates : 18–20 April 2026

**Prepared by Arsha Space School, Mysuru,
and approved by the Indian Institute of Space Science and Technology (IIST),
Thiruvananthapuram.**

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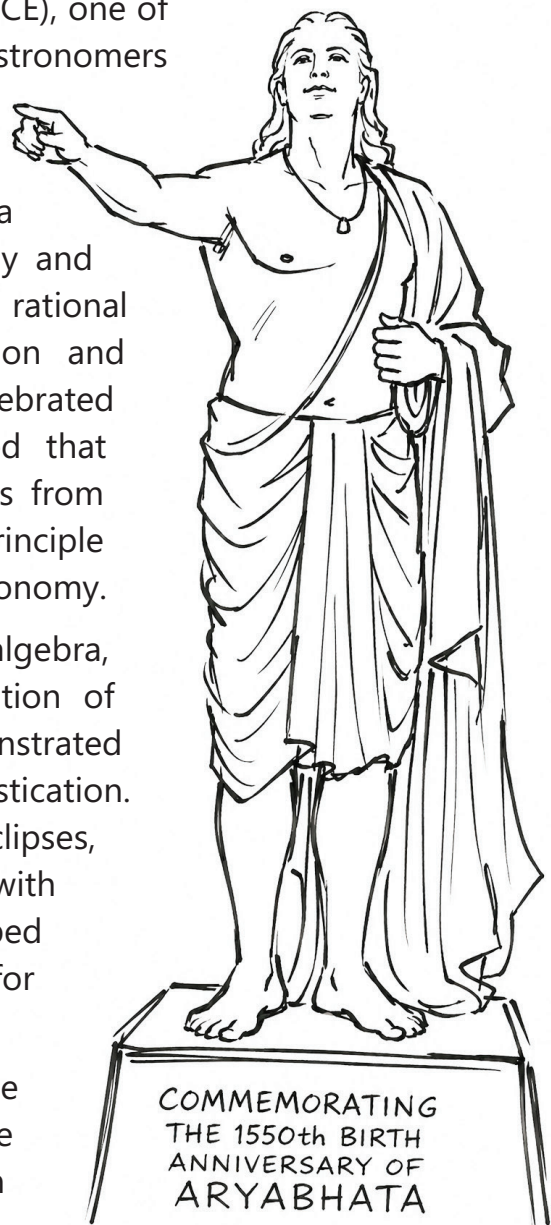
Celebrating the 1550th Birth Anniversary of **Aryabhata**

The year 2026 marks the 1550th birth anniversary of Aryabhata (476-550 CE), one of the greatest mathematicians and astronomers in history.

More than fifteen centuries ago, when many celestial phenomena were explained through mythology and speculation, Aryabhata sought rational explanations based on observation and mathematical reasoning. In his celebrated work, *Aryabhatiya*, he emphasised that "Knowledge of the heavens comes from observation and calculation," a principle that remains central to modern astronomy.

His work advanced arithmetic, algebra, and trigonometry. His approximation of the value of π (pi) to 3.1416 demonstrated remarkable mathematical sophistication. He explained solar and lunar eclipses, calculated astronomical parameters with impressive accuracy, and developed methods that laid foundations for later scientific inquiry.

Among his most remarkable insights was his understanding of the apparent motion of the heavens. In



backward, just so are the stationary stars seen by people at Lanka as moving exactly towards the west.” This analogy reflected his recognition that the apparent westward movement of the stars results from the Earth’s own rotation.

Aryabhata inspired generations of scholars far beyond India. His enduring legacy is reflected in modern India’s space programme; fittingly, the nation’s first satellite, launched in 1975, was named *Aryabhata* in his honour.

At the IIST@Schools Camp, we commemorated the life and achievements of this extraordinary scholar. Aryabhata teaches every child an important lesson: look at the sky, ask questions, and seek answers. Every great discovery begins with a simple question—“Why?” His legacy continues to inspire scientific temper, curiosity, and evidence-based thinking among students.

**Dare to look at the sky
and ask WHY !**

MESSAGES FROM THE DESK

From the Hon. Chancellor

It has always been a pleasure for me to interact with students, particularly those from rural backgrounds. Such interactions are important because the future prosperity of our nation depends upon our ability to motivate, encourage, and inspire young minds to participate in the scientific and technological activities shaping our country.

India's emergence as a respected spacefaring nation did not happen overnight. Like a great building, it has been constructed brick by brick through the vision, dedication, and perseverance of generations of contributors. From the legacy of Aryabhata to the pioneering leadership of Dr. Vikram Sarabhai, the inspiring example of Dr. A. P. J. Abdul Kalam, and the distinguished scientists presently serving through ISRO, IIST, and allied institutions, each generation has added its own brick to the edifice of India's space programme.

When Neil Armstrong left the first human footprint and planted a flag on the Moon, the world remembered the astronaut. Yet that historic achievement was made possible by the efforts of countless individuals working together behind the scenes. In the same way, every milestone of India's space missions reflects the collective contribution of many people whose commitment has advanced our nation.

The IIST@Schools Residential Space Science Camp, organised in collaboration with ARSHA Space School, Mysuru, is a commendable initiative that brings science closer to young learners. I congratulate the organisers, faculty members, volunteers, participating schools, and students, and wish the camp every success in nurturing scientific curiosity, national pride, and a spirit of service to the nation among the younger generation.

Padma Bhushan Dr. B.N. Suresh,
Chancellor, IIST



From the Vice Chancellor

Our nation's greatest strength is its abundance of young minds. We're fortunate to have such immense youthful talent and potential compared to many other places. Raw talent is everywhere, in cities and villages, and it's our shared responsibility to make sure every child has the chance to discover, question, and dream. I'm thrilled to be part of initiatives like this that create meaningful spaces where students from state schools can connect with scientists, learn through observation, and experience the joy of hands-on exploration.

Science starts with curiosity. A simple question about the sky, the Sun, or the world around us can spark a lifelong journey of learning. But knowledge truly becomes meaningful when it's guided by humanity, sensitivity, and mutual respect. Respect for one another, for nature, and for life in all its forms. When science and compassion grow together, progress becomes purposeful. I hope you've had the chance to experience experiential learning.

Stay curious, work with sincerity, and enjoy whatever you choose to do. What's most important is to enjoy what you're doing. Learn with an open mind, think positively, and believe in your abilities. Value every opportunity to explore and grow and never stop asking questions. The future belongs to those who dare to imagine boldly and dedicate themselves to turning those dreams into reality.

Dr. Dipankar Banerjee,
Vice Chancellor, IIST



From the Pro-Vice Chancellor

Every child is born with a unique potential. Education must rise beyond the narrow pursuit of marks and ranks, it must awaken this potential, shape character, and instill a sense of purpose.

Dr. A. P. J. Abdul Kalam's timeless words "Dream, dream, dream. Dreams transform into thoughts and thoughts result in action" capture the true spirit of education. It is the responsibility of institutions to ignite young minds, helping students discover their passions, sharpen their strengths, and transform their dreams into meaningful actions that serve society.

Initiatives like IIST@Schools embody this vision in action. By taking learning beyond classrooms, they create powerful moments of curiosity and inspiration, where students engage with scientists, ask bold questions, and experience the thrill of discovery. Such encounters often become defining moments, setting the course for a lifetime of aspiration and achievement.

Excellence is a continuous process and not an accident. Knowledge is not built overnight; it demands perseverance, discipline, and an unwavering commitment to growth. Students must cultivate curiosity, embrace challenges, and remain open to new ideas in their journey of lifelong learning.

True success lies where knowledge meets purpose. Dr. Kalam's vision "Let us sacrifice our today so that our children can have a better tomorrow" calls upon each one of us to contribute beyond ourselves. Let your learning be guided by this larger mission, so that your work not only fulfills personal ambition but also uplifts society and shapes a better future for generations to come.

**Dr. Kuruvilla Joseph,
Pro-Vice Chancellor, IIST.**



From the Chairman's Desk

Science attains its highest purpose not when it advances technology alone, but when it elevates humanity. Knowledge, when guided by wisdom, compassion, and responsibility, becomes a force for human welfare, national progress, and lasting peace. Without such direction, even the greatest scientific achievements can cause human suffering and may even contribute to the annihilation of the human race, a reality that continues to confront the world in many forms today.

India possesses immense talent, much of it hidden in villages and underserved communities. The responsibility before us is not merely to educate, but to discover, nurture, and empower these young minds, for among them are the scientists, innovators, and nation-builders of tomorrow.

The IIST@Schools Residential Space Science Camp reflects this broader vision. By bringing science closer to students, it creates opportunities for curiosity to grow into aspiration, and aspiration to mature into achievement. Such initiatives remind us that the future of a nation is shaped not only by what its children learn, but by what they are inspired to become.

Sri Denny Amrithagiri
(ARSHA Space School)
Chairman, ARSHA Trust, Mysuru.



1

EXECUTIVE SUMMARY

The IIST@Schools Three-Day Residential Space Science Camp 2026 was organised by the Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram, in collaboration with ARSHA Space School, Mysuru, from 18 to 20 April 2026 at the SVYM Campus, Mysuru, Karnataka.

The programme brought together 110 students from Classes VII to X representing government schools, rural and tribal schools, and other selected educational institutions from Mysuru district and neighbouring regions, in the state of Karnataka, with special emphasis on girls and students from underserved and underprivileged backgrounds. The camp was designed as an immersive introductory exposure to space science, astronomy, aerospace engineering, scientific thinking, and interdisciplinary STEM education.

One of the most significant aspects of the programme was the direct participation of eminent scientists, academicians, and research scholars from IIST. The presence of Padma Bhushan Dr. B. N. Suresh, Chancellor of IIST; Dr. Dipankar Banerjee, Vice-Chancellor of IIST; Dr. Kuruvilla Joseph, Pro-Vice Chancellor of IIST; Dr. Lekshmi V. Nair, Associate Dean, Student Activities Outreach, IIST; and several faculty members and scholars transformed the camp into an academically vibrant and inspirational experience for the participating students.

The programme included lectures, demonstrations, interactive sessions, model rocketry activities, discussions on Chandrayaan and Aditya-L1 missions, virtual reality exposure, astronomy-related activities, Vedic Mathematics, mechanical engineering demonstrations, and a sky observation session.

The camp successfully achieved its primary objectives of stimulating scientific curiosity, introducing students to contemporary developments in India's space programme, encouraging questioning and scientific thinking, and enabling direct interaction between students and scientists.

The programme also demonstrated the importance of inclusive science outreach by extending opportunities to students from government schools, Kannada-medium institutions, and rural backgrounds. Throughout the camp, students displayed remarkable enthusiasm, curiosity, discipline, and willingness to participate in discussions and practical activities.

The camp stands as a significant educational outreach initiative aligned with the national vision of scientific temper, inclusive innovation, and youth empowerment. It was accessible to children from economically weaker sections of society, as it was conducted completely free of cost.

The programme was also widely regarded as one of the most impactful and well-received outreach initiatives conducted under the broader vision of IIST's student engagement and science popularization efforts. The remarkable level of student participation, the depth of interaction between scientists and young learners, the strong response from teachers, parents, and media representatives, and the meaningful inclusion of rural and economically underserved students collectively reflected the successful realization of the programme's objectives in an exemplary manner. In the continuing journey of IIST's outreach initiatives, this camp distinctly demonstrated how collaborative efforts, thoughtful academic planning, and grassroots accessibility can together create a deeply transformative educational experience capable of leaving a lasting impact on young minds and communities alike.



2

INTRODUCTION

India's emergence as a globally respected spacefaring nation has created a growing need for structured scientific outreach among school students, particularly in rural and underserved regions. Educational initiatives that connect young learners directly with scientists, research institutions, and experiential learning environments play an essential role in nurturing scientific curiosity and long-term academic aspirations.

The IIST@Schools Residential Space Science Camp 2026 was conceived within this broader national context. The programme sought to create a meaningful bridge between advanced scientific institutions and school-level learners by providing direct exposure to space science and interdisciplinary STEM learning.

Conducted over three residential days, the programme combined academic sessions, demonstrations, student interaction, hands-on activities, experiential learning opportunities, and motivational interactions with distinguished personalities associated with India's scientific and space missions.

The camp was organised at the campus of Swami Vivekananda Youth Movement (SVYM) Mysuru, a setting that enabled students from diverse socio-economic backgrounds to reside, learn, interact, and participate collectively in an academically stimulating environment.

The camp also coincided with the commemoration of the 1550th Birth Anniversary of Aryabhata, thereby symbolically connecting India's ancient scientific heritage with its modern advancements in astronomy and space research.

3

ABOUT THE ORGANISING INSTITUTIONS

3.1 Indian Institute of Space Science and Technology (IIST)

The Indian Institute of Space Science and Technology (IIST) stands as a premier institution dedicated to the study and advancement of space science, technology, and applications. Established under the Department of Space, Government of India, IIST was envisioned as a unique centre of excellence to nurture high-quality human resources for the nation's rapidly growing space programme.

Located in Thiruvananthapuram, in close proximity to leading space research centres, the institute offers an intellectually vibrant environment that integrates academic rigor with real-world scientific exploration.

IIST is distinguished by its strong academic framework, cutting-edge research, and close association with the Indian Space Research Organisation (ISRO). The institute offers undergraduate, postgraduate, and doctoral programmes in disciplines related to science, space sciences, engineering, humanities and social sciences. With a curriculum that blends theoretical knowledge with hands-on training, students gain exposure to advanced laboratories, research projects, and opportunities to work on space missions, gaining skills essential for the space sector.

Beyond academics, IIST nurtures a culture of curiosity, creativity, and holistic development. Students actively engage in a wide range of co-curricular and outreach activities, contributing to scientific awareness and societal development. With its strong emphasis on excellence and national service, IIST continues to play a pivotal role in shaping the future of India's space endeavours, producing graduates who contribute significantly to cutting-edge research and technological advancements on a global scale.

3.2 **ARSHA Space School**

ARSHA Space School (ArSS) is the flagship academic initiative of ARSHA Trust, Mysuru. The institution focuses on creating meaningful educational outreach opportunities in science and space education primarily for government school and college students, particularly those from rural and tribal backgrounds. The organization works with the broader objective of integrating scientific inquiry, ethical values, cultural rootedness, and experiential learning.

The collaborative organisation of the IIST@Schools Camp represented an important milestone in expanding access to high-quality science education among underserved student communities.

4

OBJECTIVES OF THE CAMP

The primary objectives of the camp were as follows:

- To introduce students to the fundamentals of space science and astronomy.
- To create awareness regarding India's achievements in space research and technology.
- To encourage scientific curiosity and analytical thinking among school students.
- To provide opportunities for direct interaction between students and scientists.
- To expose students to hands-on and experiential STEM learning.
- To inspire students from rural and government school backgrounds to pursue higher education in science and technology.
- To develop confidence, communication, and collaborative learning among participants.
- To celebrate India's scientific heritage in connection with Aryabhata's 1550th birth anniversary.

A background image showing a group of students and a teacher in a classroom setting. The teacher is standing and pointing at a whiteboard, while students are seated and looking towards the front. The image is faded and serves as a background for the section header.

5

CONCEPTUAL FOUNDATION OF THE PROGRAMME

The conceptual foundation of the programme rested on the idea that science education becomes more meaningful when students experience science as a living process rather than as textbook information alone.

The programme therefore adopted the following educational principles:

- Interactive learning instead of one-directional lecturing.
- Exposure to real-world scientific missions and applications.
- Encouragement of questioning and curiosity.
- Integration of observation, experimentation, and discussion.
- Student-friendly communication by scientists and scholars.
- Inclusive participation irrespective of socio-economic background.
- Integration of scientific inspiration with ethical and national values.

The overall structure of the camp attempted to balance academic seriousness with excitement, curiosity, and student participation.

6

INAUGURAL SESSION: ADDRESSES BY DIGNITARIES

The inaugural session on 18 April 2026 marked a memorable beginning to the programme. The event commenced with prayer and formal welcome arrangements, followed by introductory remarks by the organisers and dignitaries.

The programme was graced by several distinguished personalities including:

- Padma Bhushan Dr. B. N. Suresh, Chancellor, IIST
- Dr. Dipankar Banerjee, Vice-Chancellor, IIST
- Dr. Kuruvilla Joseph, Pro Vice-Chancellor, IIST
- Air Commodore Prasanth Balakrishnan Nair, designated astronaut for India's Gaganyaan Mission.
- Dr. Lekshmi V. Nair, Associate Dean, Student Activities & Outreach, IIST
- Shri D. Udayakumar, DDPI, Mysuru
- Shri Denny Amrithagiri, Chairman, ARSHA Space School

In his inaugural address, Chancellor Dr. B. N. Suresh spoke passionately about the importance of scientific curiosity, discipline, perseverance, and innovation. He encouraged students to dream beyond conventional limitations and reminded them that India's scientific future depends upon the imagination and determination of young learners. Reflecting on the remarkable journey of India's scientific and space advancements, he paid tribute to the visionary scientists and leaders whose dedication laid the foundation for the nation's emergence as a global space power. He fondly recalled the pioneering efforts of luminaries such as Dr. Vikram Sarabhai, the father of the Indian space programme, along with the invaluable contributions of Dr. A. P. J. Abdul Kalam and several distinguished ISRO chairmen and scientists who, through decades of perseverance, transformed India into one of the world's most respected spacefaring nations.

Dr. Suresh also highlighted how the collective efforts of institutions under the Department of Space, together with the strategic vision and technological advancements supported by the nation's defence establishment, have significantly strengthened India's capabilities in space science, satellite technology, and national security. He praised the spirit of self-reliance, scientific excellence, and indigenous innovation that continues to drive the country's achievements in both civilian and defence sectors, earning India global recognition and respect.

Delivering the Presidential Address, Dr. Dipankar Banerjee, Vice-Chancellor, IIST, spoke about the transformative role of science, innovation, and education in national development and societal progress. Paying tribute to Aryabhata on the occasion of his 1550th birth anniversary, he reflected on the profound impact of Aryabhata's contributions, particularly his understanding of the value of pi, celestial phenomena, and the scientific principles underlying planetary behaviour and eclipses. He noted that Aryabhata's work continues to inspire generations of scientists and researchers even today. Through his address, Dr. Banerjee encouraged students to pursue science with curiosity, dedication, and a spirit of innovation, while recognizing the importance of India's longstanding contributions to global scientific knowledge.

In his opening remarks, Dr. Kuruvilla Joseph, Pro Vice-Chancellor, IIST, emphasized the importance of scientific curiosity, critical thinking, and meaningful engagement with young learners in shaping the future scientific landscape of the nation. Reflecting upon the enduring legacy of Aryabhata, he highlighted the great scholar's pioneering contributions to Indian mathematical astronomy, including his remarkable insights into planetary motions, eclipses, and mathematical calculations that were far ahead of their time. He encouraged students to cultivate the habit of questioning, observation, and scientific inquiry, while also appreciating the rich scientific heritage of India and its continuing relevance in modern scientific advancement.

Addressing the students online, Air Commodore Prasanth Balakrishnan Nair encouraged the participants to dream fearlessly, remain disciplined, and pursue science with curiosity and dedication. Reflecting on India's achievements in space and defence, he reminded the students that great accomplishments are born through perseverance, teamwork, and national pride. His brief yet inspiring interaction left the young participants highly motivated and enthusiastic about the limitless possibilities that science and innovation can offer for the future.

Earlier, in his welcome address, Shri Denny Amrithagiri, Chairman, ARSHA Space School, spoke to the students about the importance of becoming good human beings before becoming scientists, so that scientific progress may always be guided by compassion and concern for humanity. Remembering Aryabhata, he urged the students to “look at the sky and ask why, dream high and rise high, and serve our nation.” His address served as both a tribute to the extraordinary legacy of India’s scientific pioneers and a powerful call for the younger generation to carry forward that legacy with curiosity, dedication, and innovation.

After the formal conclusion of the session, Shri D. Udayakumar, Deputy Director of Public Instruction (DDPI), Mysuru, extended his heartfelt wishes for the success of the programme. He wholeheartedly supported the camp by facilitating coordination with schools through his office and by deputing the Subject Expert Mrs. Pushpalatha for official assistance. In his remarks, he highlighted the unique opportunity and privilege for students from the Mysuru region to listen to and interact with some of the country’s most distinguished scientists.

Dr. Lekshmi V. Nair delivered the Vote of Thanks for the inaugural session. Much to her amazement, she especially thanked the students and the respective schools for turning up in huge numbers for an IIST program outside Kerala, and Arsha Space School for the tremendous efforts they put in to make it a reality. Emphasizing the importance of nurturing scientific temper at the grassroots level, Dr. Lekshmi spoke about the relevance of initiatives such as the ‘IIST@ Schools’ outreach programme, which aims to inspire and empower students, particularly those from rural and underserved regions of the country. She highlighted that such programmes play a crucial role in bringing science closer to young minds, creating awareness about opportunities in space science and technology, and motivating students to actively contribute to the nation’s scientific and technological progress.

The students responded enthusiastically throughout the session. Several moments of interaction reflected their curiosity about rockets, satellites, astronauts, and the future of India’s space missions. The atmosphere of the inaugural programme was intellectually vibrant while also emotionally inspiring for many participating students. Alongside discussions on scientific

advancement and technological progress, the speakers collectively emphasized the importance of ensuring that science progresses hand in hand with humanity, ethics, and social responsibility. They highlighted that true scientific achievement must ultimately contribute towards global peace, human welfare, sustainable development, and the prosperity of society as a whole. The sessions therefore not only inspired students to pursue excellence in science and innovation, but also encouraged them to use knowledge and technology for the greater good of humanity.





7

DAY-WISE ACADEMIC AND ACTIVITY REPORT

DAY 1 18 APRIL 2026

Theme: Curiosity, Inspiration and Introduction to Space Science

The first day focused on orientation, inspiration, and introducing students to the broad universe of space science and scientific exploration.

7.1 Session: From Curiosity to Cosmos

Chancellor Dr. B. N. Suresh interacted directly with students in a highly engaging manner. Instead of limiting the session to formal scientific presentation, the interaction encouraged students to ask questions freely.

Students asked enthusiastic questions such as:

- "How do rockets return to Earth?"
- "Can humans live permanently on Mars?"
- "What inspired scientists to study space?"
- "Do scientists fail during experiments?"

The respected Chancellor responded with remarkable patience and warmth, often narrating real-life experiences from India's launch vehicle development journey.

The session created visible excitement among the students, as it was the first time in their lives that they were interacting with a nationally respected scientist.

7.2 Online Interactive Session with Air Commodore Prasanth Balakrishnan Nair

One of the most inspiring moments of the camp was the online interaction with Air Commodore Prasanth Balakrishnan Nair, designated astronaut for India's Gaganyaan Mission. The students listened attentively as he spoke about astronaut training, physical discipline, mental preparedness, teamwork, and the responsibilities associated with human spaceflight.

The interaction became especially lively when students began asking spontaneous questions:

- "What do astronauts eat in space?"
- "Do astronauts feel afraid during launch?"
- "How does one sleep in zero gravity?"
- "After all, why should we attempt space missions at all?"
- "What is the real purpose of going to space if it demands so much caution and preparation, when travelling on Earth is so much easier?"

The Air Commodore answered with humour, simplicity, and encouragement. Students responded with applause and laughter during several portions of the interaction, making the session both educational and memorable.

7.3 Session: Aditya-L1 Mission

Vice-Chancellor Dr. Dipankar Banerjee introduced the students to India's prestigious solar mission, Aditya-L1, offering them a fascinating insight into one of the nation's most significant contemporary space science initiatives. Through an engaging and highly interactive presentation, he explained the complex phenomenon of coronal mass ejections and their direct as well as indirect effects on Earth's communication systems, satellites, navigation networks, power infrastructure, and technological ecosystems.

The session explained:

- The importance of studying the Sun.
- Solar flares and magnetic storms.

- Space weather and its effects on Earth.
- India's achievements in solar observation.

Dr. Banerjee also highlighted India's growing achievements in the field of solar observation and space research, emphasizing how missions like Aditya-L1 demonstrate the country's increasing scientific capability and global leadership in advanced space exploration. He explained how continuous observation of the Sun helps scientists better understand the dynamics of the solar atmosphere and contributes towards safeguarding technological systems and future space missions from the impact of solar disturbances.

The session was particularly appreciated for its student-friendly approach, as complex scientific concepts were presented in a simple, relatable, and inspiring manner. Through vivid explanations and interactive discussions, students came to understand that the Sun is not merely a distant celestial object, but a dynamic scientific laboratory whose behaviour profoundly influences life, climate, communication, and technology on Earth. Dr. Banerjee's address successfully ignited curiosity among the participants and encouraged them to view space science not only as a field of exploration, but also as an area of knowledge with direct relevance to humanity and the future of society.

7.4 Practical Session: Light Up — Exploring Light Through Experiments

This afternoon session introduced students to the behaviour of light through demonstrations and experiments conducted by the IIST Research Scholars, lead by Dr. Dinesh N. Naik, Associate Professor, Dept. of Physics, IIST.

Students actively participated in observing:

- Reflection and refraction.
- Colour separation.
- Light behaviour through lenses.
- Optical illusions.

The practical demonstrations created a lively learning atmosphere. Students repeatedly expressed surprise and excitement while observing simple but visually engaging experiments.

7.5 Session: Lunar Rhythms

The astronomy-oriented session on lunar science introduced students to:

- Moon phases.
- Orbital cycles.
- Lunar observation.
- India's Chandrayaan missions.

The session, led by Dr. Anand Narayanan, Professor, Department of Earth and Space Sciences, IIST, encouraged students to connect their everyday observations of the Moon with scientific reasoning.

7.6 Session: Sky Watch

The evening sky observation session introduced students to the fundamentals of observational astronomy. This exciting session was conducted by Sumukha S. C., Research Scholar, Department of Earth and Space Sciences, IIST, and Rahul Radhakrishnan, Outreach Project Associate, IIST.

Students attempted to identify:

- Constellations.
- Planetary positions.
- Lunar features.
- Visible celestial objects such as Venus, Jupiter, and its four largest Galilean satellites.

Though weather conditions imposed certain observational limitations, the session nevertheless generated enthusiasm among students, many of whom had never previously participated in organized sky observation activities.



DAY 2 19 APRIL 2026

Theme: Scientific Exploration, Discovery and Emerging Technologies

The second day began with a profound lecture by the Pro Vice-Chancellor, Dr. Kuruvilla Joseph, which focused on broadening scientific imagination and introducing students to interdisciplinary areas of science and technology.

7.7 Session: Science — A World of Endless Fascination

The opening session of Day 2 was conducted by Pro Vice-Chancellor Dr. Kuruvilla Joseph, who introduced students to the fascinating world of science as a continuous process of curiosity, observation, experimentation, and discovery. Through an engaging and highly interactive presentation, he encouraged students to cultivate the habit of questioning everyday phenomena and to approach science not merely as a classroom subject, but as a way of understanding the world around them. Stressing the importance of scientific temper, critical thinking, and perseverance, he motivated students to remain inquisitive and fearless in exploring new ideas and concepts.

The session featured lively interactions and discussions on several interesting scientific questions, including:

- Why the sky appears blue.
- Why eclipses occur.
- How satellites remain in orbit around the Earth.
- Why scientific experiments sometimes fail despite careful effort.
- How curiosity and observation lead to scientific discoveries.
- The importance of questioning, experimentation, and learning from failure.

Using simple explanations and relatable examples, Dr. Kuruvilla demonstrated how even the most advanced scientific discoveries often originate from basic questions about nature and everyday life. He explained that science progresses through continuous experimentation, careful observation, and the willingness to learn from unsuccessful attempts. By drawing examples from space science, technology, and real-world applications, he illustrated how scientific inquiry contributes directly to innovation, societal development, and national progress.

The conversational and student-friendly format of the session created a lively learning environment in which students participated enthusiastically and confidently. Even shy and hesitant students were encouraged to ask questions and engage in discussions, making the session highly interactive and intellectually stimulating. The programme successfully conveyed the message that science is not limited to laboratories and textbooks alone, but is deeply connected to daily life, human advancement, and the future of society. The session ultimately inspired students to view curiosity, critical thinking, and perseverance as essential qualities for both scientific learning and personal growth.

7.8 **Session: Model Rocketry 101**

The model rocketry session, titled “Unlocking Flight: Basics of Aerospace Engineering & Model Rocketry 101,” conducted by the B.Tech students of IIST under the supervision of Akshay B. Panicker, with guidance from scientists, engineers, and IIST alumni, became one of the most energetic and engaging components of the second day.

Students learned:

- Basic rocket structure & launching.
- Principles of propulsion.
- Stability and aerodynamics.
- Safety procedures.

The practical demonstrations triggered tremendous enthusiasm. Students eagerly gathered around the demonstration area, frequently attempting to predict rocket movement and flight behaviour. Several students enthusiastically described the session as “the most engaging session they attended.”

7.9 **Session: Exploration of the Moon through Chandrayaan Missions**

The Chandrayaan session, led by Dr. Rajesh V. J., Professor, Dept. of Earth and Space Sciences, IIST, with the support of research scholars, generated exceptional enthusiasm among students.

Faculty members explained:

- The objectives of Chandrayaan missions.

- Lunar surface exploration.
- Scientific instruments used in missions.
- India's contribution to global lunar science.

Students displayed visible excitement while viewing mission visuals and discussing lunar exploration. One student humorously asked whether "future school trips might happen on the Moon," generating laughter across the hall while also stimulating discussion on future possibilities in space travel.

7.10 **Session: Who Wants to See the Atom?**

This session, led by Dr. Jinesh K. B., Professor, Department of Physics, IIST, and ably supported by Tutors from IIST, introduced students to atomic structure, microscopic observation, and scientific instrumentation.

The presenters effectively used curiosity-driven explanations and demonstrations to make abstract scientific ideas more approachable. Students appeared fascinated by the idea that invisible microscopic structures can be scientifically studied and visualised.

7.11 **Session: Virtual Reality**

The Virtual Reality session, taken by Shri Jayakumar T. V., Research Scholar, Dept. of Avionics, IIST, became one of the most amusing technology experiences for students.

Many students experienced VR technology for the first time.

Students enthusiastically reacted while exploring simulated scientific and space-related environments. Expressions of surprise, laughter, curiosity, and excitement were visible throughout the session. The session demonstrated how immersive technologies can contribute significantly to future science education.

7.12 **Cultural Interaction**

The cultural programme, led by a group of BSW and MSW female volunteers who had come to undergo training at SVYM Campus, encouraged informal interaction among students during the evening session. Students from different schools actively participated in songs, presentations, and group activities, thereby strengthening friendship, confidence, and collaborative spirit.



DAY 3 20 APRIL 2026

Theme: Mathematics, Engineering and Reflection

The final day focused on mathematics, engineering applications, student reflection, and programme closure.

7.13 Session: Vedic Mathematics

The Vedic Mathematics session conducted by Dr. E. Natarajan, Professor, Department of Mathematics, IIST, introduced students to alternative computational techniques and mental calculation methods. Students actively attempted rapid calculations and participated enthusiastically during interactive demonstrations.

Several students reacted with surprise and amusement as they discovered quicker and more efficient arithmetic techniques. The session succeeded in presenting mathematics as enjoyable, approachable, and intellectually stimulating.

7.14 Session: Mechanical World — Introduction to Mechanisms and Machines

This session emerged as one of the most successful and interactive sessions of the camp. It was handled by Dr. Sam Noble, Assistant Professor, Dept. of Aerospace Engineering, IIST.

Students were introduced to:

- Mechanical motion.
- Linkages and mechanisms.
- Engineering design principles.
- Practical machine demonstrations.

The session involved active questioning and problem-solving activities. Students eagerly attempted to predict machine movement and understand mechanical behaviour through direct observation. The highly interactive and activity-oriented style sustained student engagement throughout the session.

7.15 Feedback from Students, Teachers, Parents, and Media

The programme evoked an enthusiastic and heartfelt response from all sections of the audience, with students, teachers, parents, and members of the media expressing deep appreciation for the initiative and its larger social and educational significance.

Several students stated that:

- They had developed greater interest in science.
- They wished to visit IIST in the future.
- They now wanted to become scientists, engineers, or astronauts.
- They had overcome fear in asking questions publicly.

Shashank, a Class VIII student from GHS Hirehalli, shared his excitement saying that the programme was “completely different from regular classroom learning” and that listening to scientists and academicians from IIST made him feel inspired to dream of a future in science and space research. He remarked that the sessions helped him understand that students from rural schools too could aspire to contribute to the nation’s scientific progress.

Kum. Spandana C. N., a Class VIII student from KPS Antharasanthe, described the event as “one of the most memorable learning experiences” she had attended. She particularly appreciated the discussions on Aryabhata, India’s space achievements, and the opportunities available in the field of science and technology. She expressed hope that more such programmes would reach village students across the country and motivate young learners like herself to think beyond conventional boundaries.

Teachers accompanying the students also conveyed their appreciation for the programme and its impact on young minds. Sri Harshavardhana, Headmaster-in-Charge of GHS Magge, observed that such initiatives are extremely important in creating scientific awareness among rural students who may otherwise have limited exposure to advanced scientific institutions and opportunities. He noted that the interaction with eminent personalities from IIST significantly boosted the confidence and aspirations of the participating students.

Sri Shashidhar H. L., Trustee of Pragathi School, Saraguru, remarked that the programme was “not merely an academic event, but a mission-oriented outreach initiative” that successfully connected students with India’s scientific legacy and future potential. He appreciated the collaborative efforts of IIST and ARSHA Space School in bringing high-quality science outreach activities

to underserved communities and expressed hope that such initiatives would continue on a larger scale in the coming years.

Sri D. Venkatesh, Teacher Escort from Thyagaraju Central School, Bidadi, stated that the programme was highly relevant in the present educational context, where inspiring students towards research, innovation, and nation-building is essential. He observed that many students returned with renewed curiosity and enthusiasm for science after attending the sessions and interacting with experts.

Parents of participating students also expressed immense happiness and gratitude for the opportunity provided to their children. One parent remarked that programmes of this nature open entirely new worlds for village students and help them believe that they too can dream big and achieve great things. Another parent appreciated the organizers for conducting such a meaningful and disciplined programme that combined inspiration, scientific learning, and cultural pride in equal measure. Several parents expressed the view that outreach initiatives like “IIST@Schools” are especially valuable for underprivileged and rural students, as they help bridge educational and motivational gaps that often exist between urban and rural learning environments.

Members of the press and media fraternity who covered the event likewise praised the initiative as a commendable and socially relevant effort towards promoting scientific awareness and educational inclusivity. Media representatives observed that the programme stood out not only for its academic depth but also for its commitment to reaching grassroots communities and nurturing scientific temper among young learners. They appreciated the vision behind conducting such outreach programmes in collaboration with allied institutions and noted that the initiative had been warmly embraced by students, educators, and the wider public alike. Many described the programme as an inspiring example of how premier scientific institutions can actively engage with society and contribute meaningfully towards shaping the next generation of innovators and responsible citizens.

7.16 Parent and Teacher Interaction

Despite repeated and tireless efforts by the organizers, relatively few parents attended the session, as most of them hailed from rural, tribal, and hilly forest regions, where reaching the venue was difficult amidst their daily livelihood

responsibilities. Many were also hesitant to attend due to their lack of formal education, while some felt intimidated by such large-scale programmes conducted in the city.

Moreover, due to the ongoing annual examination, valuation camp and census duties assigned to them at the time, teacher participation was also lower than expected. However, the concluding interaction with parents and teachers focused on identifying early talents within households and classrooms, and encouraging students to pursue the potential they exhibited, irrespective of the prescribed syllabus and curriculum they were required to follow.

This session, envisaged as an integral part of the camp, also focused on:

- Scientific education opportunities.
- Importance of curiosity-driven learning.
- Need for continuous science outreach.
- Encouraging rural students in STEM education.

Teachers appreciated:

- The inclusive nature of the programme.
- Student-friendly scientific communication.
- The opportunity for rural students to interact with scientists.
- Exposure to emerging scientific disciplines.

Parents and teachers also expressed the view that similar programmes should be conducted regularly in collaboration with national scientific institutions. The interaction reflected strong appreciation for the collaborative effort between IIST and ARSHA Space School.

7.17 Certificate Distribution & Memento Presentation

Participation certificates were distributed to students and volunteers in recognition of their active involvement in the programme. The certificate distribution ceremony became an emotionally memorable moment for many students, especially those participating in a residential science camp for the first time. Beautifully carved mementoes were presented to key dignitaries, IIST faculty members, and each participating school in appreciation of their contribution and participation.





The camp benefited immensely from the participation of eminent scientists, academicians, faculty members, and research scholars.

Key Dignitaries

Name	Designation
Dr. B. N. Suresh	Chancellor, IIST
Dr. Dipankar Banerjee	Vice-Chancellor, IIST
Dr. Kuruvilla Joseph	Pro Vice-Chancellor, IIST
Dr. Lekshmi V. Nair	Associate Dean, Student Activities & Outreach, IIST
Air Commodore Prasanth Balakrishnan Nair	Designated Astronaut, Gaganyaan Mission
Dr. Girish Kumar R.	Programme Coordinator
Shri Denny Amrithagiri	Chairman, ARSHA Space School

Faculty Members and Scholars

The programme also involved professors, scientists, research scholars, engineers, and student volunteers from various disciplines, including:

- Physics
- Aerospace Engineering
- Earth and Space Sciences
- Mathematics
- Avionics

Personal Interaction and Guidance Session with Alumni Working in Various Central Government and Private Research Agencies

1. Indian Space Research Organisation (ISRO)

- Abhiraj R. – Scientist C
- Deepak Joji – Scientist C
- Akash S. S. – Scientist C
- Gershom Stalin – Scientist C
- Sai Abhishek – Scientist C

2. Centre for Development of Advanced Computing (C-DAC)

- Akshay B. Panicker – VLSI Engineer

3. Harpy Aerospace

- Julai P. Raj – Embedded Engineer

The active involvement of young scholars and student volunteers significantly enhanced the friendliness and accessibility of the programme. A special mention must be made of the service rendered by **Shri H. L. Satheesh**, a freelance educational facilitator and trainer from Mysuru, who is also a widely respected science teacher in Karnataka, for his meaningful and effective translations from English to Kannada whenever required. He was present throughout almost all the sessions, both theoretical and practical, extending constant support to the faculty members.

9

STUDENT PARTICIPATION AND INSTITUTIONAL REPRESENTATION

A total of 110 students participated in the camp.

The student cohort represented diverse educational and socio-economic backgrounds including:

- Government schools
- Rural schools
- Kannada-medium schools
- Tribal Schools
- Other selected institutions

School-wise Participation Summary

School Name	Total Students
Maharshi Public School, Mysuru	5
DMS Jnana Kuteera School	15
Thyagaraja Central School	10
Pragathi Educational Institute	10
Adarsha School, Hunsur	3
GHS Magge	15
GHS Siddalingapura	7
KGBV Rathnapuri, Hunsur	6

KGBV Keragalli	5
JSS High School, Lakshmipuram	5
GHS Vinayakanagara, Mysuru	9
GHS Hootagalli	5
Wisdom School, Nanjangud	1
KPS Antharasanthe	5
Excel Public School	3
GHS Hirehalli	6

Total Participants: 110 Students

10

PEDAGOGICAL APPROACH AND LEARNING ENVIRONMENT

The camp adopted a multi-dimensional pedagogical framework that combined:

- Lectures
- Demonstrations
- Interaction
- Hands-on activities
- Scientific discussions
- Visual learning
- Group participation
- Reflective interaction

One of the strongest aspects of the programme was the open and approachable interaction between scientists and students. Students were encouraged to ask questions freely without hesitation. This significantly improved participation levels and helped cultivate confidence among learners. The learning environment throughout the camp remained enthusiastic, inclusive, energetic, and academically stimulating.



11

STUDENT ENGAGEMENT AND OBSERVED OUTCOMES

The camp generated several positive educational outcomes.

11.1 Academic Outcomes

Students demonstrated:

- Increased curiosity regarding science and technology.
- Greater awareness about India's space missions.
- Improved willingness to ask scientific questions.
- Enhanced interest in astronomy and engineering.
- Better appreciation of scientific experimentation.

11.2 Behavioural and Social Outcomes

Students also displayed:

- Improved confidence in communication.
- Collaborative participation.
- Respectful engagement with peers and faculty.
- Increased enthusiasm for learning.

11.3 Inspirational Outcomes

For many students from rural and government school backgrounds, the camp served as their first direct interaction with nationally recognised scientists and premier scientific institutions. The experience significantly broadened their academic imagination and aspirations.



12

ORGANISATIONAL SUPPORT AND HOSPITALITY

The residential arrangements, food facilities, volunteer support, recreational activities, and general hospitality contributed positively to the functioning of the camp. The organizing teams worked with commitment and sincerity throughout the programme. Student volunteers, faculty coordinators, and support staff collectively contributed to maintaining a safe, encouraging, and academically active environment. The venue campus provided a suitable educational environment for conducting a residential scientific outreach programme of this nature.



13

ACADEMIC SIGNIFICANCE OF THE PROGRAMME

The IIST@Schools Camp represented an important model of science outreach and institutional collaboration. Its academic significance may be understood in the following ways:

1. It connected advanced scientific institutions directly with school-level learners.
2. It promoted inclusive STEM outreach among underserved student communities.
3. It encouraged interdisciplinary scientific learning.
4. It strengthened public awareness regarding India's space achievements.
5. It fostered curiosity-driven scientific education.
6. It demonstrated the effectiveness of experiential learning models.

The programme also aligned with broader national educational priorities related to scientific temper, innovation, and equitable access to quality education.

SCOPE FOR FUTURE EXPANSION AND INSTITUTIONAL STRENGTHENING



The remarkable success of the programme clearly reflects its strong potential for future expansion and long-term institutional impact. Building upon the valuable experiences and interactions observed during the camp, a few constructive measures may further enrich future editions of the programme and enhance its educational effectiveness.

1. Structured thematic grouping of sessions based on age groups and academic levels may help ensure more focused and age-appropriate learning experiences for participating students.
2. A balanced participant strength, with optimal student-teacher interaction, may further strengthen engagement, improve coordination, and enable more personalized learning opportunities during sessions and activities.
3. Additional bilingual instructional support and simplified resource materials could help broaden accessibility and encourage participation from students belonging to diverse linguistic and educational backgrounds.
4. Increased inclusion of short hands-on activities, reflection exercises, quizzes, and group-based interactions may further enhance experiential learning and sustain student enthusiasm throughout the programme.
5. The development of student workbooks, activity guides, and follow-up learning materials may help participants continue their scientific exploration even after the completion of the camp.
6. Shorter and highly interactive session formats, incorporating practical demonstrations and discussion opportunities, may further improve student attentiveness and participation, particularly among younger learners.

7. Expansion of astronomy observation sessions and practical exposure activities, wherever feasible under favourable conditions, could provide students with even more memorable and immersive scientific experiences.
8. Greater integration of scientific storytelling, biographies of great scientists, and the historical evolution of Indian space research may further strengthen student's emotional and intellectual connection with science and national scientific achievements.
9. The continued involvement of research scholars, young scientists, and student mentors would further enrich the interactive nature of the programme and provide relatable role models for aspiring students.
10. The development of long-term mentorship initiatives and sustained outreach collaborations connecting IIST with rural and underserved schools may significantly contribute towards nurturing future scientific talent and promoting inclusive educational growth across the country.

These suggestions, it is hoped, will contribute to the continued success of future outreach initiatives under the inspiring vision of IIST and its collaborating institutions.



15 CONCLUSION

The IIST@Schools Three-Day Residential Space Science Camp 2026 stands as a remarkable educational outreach initiative that successfully brought together scientific excellence, institutional collaboration, experiential learning, and inclusive participation.

The programme provided students with meaningful exposure to space science, scientific thinking, and contemporary technological developments while simultaneously nurturing curiosity, confidence, and aspiration. The participation of eminent scientists and faculty members from IIST elevated the academic quality and inspirational value of the programme considerably.

The camp demonstrated that when premier scientific institutions engage directly with school students—particularly those from rural and underserved communities—the impact extends far beyond classroom learning. Such initiatives contribute meaningfully to the development of scientific temper, national confidence, and future scientific leadership.

The collaboration between IIST and ARSHA Space School may therefore be regarded as a valuable model for future science outreach initiatives across India.

16

ANNEXURES

Annexure I — Programme Schedule

Date	Session
18 April 2026	Inaugural Session
18 April 2026	From Curiosity to Cosmos
18 April 2026	Interaction with an Astronaut
18 April 2026	Aditya-L1 Mission
18 April 2026	Exploring Light Through Experiments
18 April 2026	Sky Watch
18 April 2026	Lunar Rhythms
19 April 2026	Science: A World of Endless Fascination
19 April 2026	Unlocking Flight: Basics of Aerospace Engineering & Model Rocketry 101
19 April 2026	Chandrayaan Missions
19 April 2026	Who Wants to See the Atom?
19 April 2026	Virtual Reality
19 April 2026	Cultural Programme
20 April 2026	Vedic Mathematics
20 April 2026	Mechanical World: Machines and Mechanisms
20 April 2026	Feedback Session
20 April 2026	Certificate Distribution

Annexure II — Representative Student Institutions

1. DMS Jnana Kuteera School
2. GHS Magge
3. Pragathi Educational Institute
4. Thyagaraja Central School
5. Maharshi Public School
6. GHS Siddalingapura
7. KGBV Rathnapuri, Hunsur
8. KGBV Keragalli
9. GHS Vinayaka Nagara
10. JSS High School, Lakshmipuram
11. GHS Hirehalli
12. KPS Antharasanthe
13. Adarsha School, Hunsur
14. Excel Public School
15. Wisdom School
16. GHS Hootagalli

Annexure III — Documentation Sources

This report has been prepared based on:

- Official programme schedules.
- Organisational documentation.
- Student participation records.
- Observations from academic sessions.
- Feedback from participants and facilitators.
- Institutional coordination records.

**Prepared for institutional documentation and academic reference
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Camp 2026 organized by Arsha Space School, Mysuru.**



**Indian Institute of Space Science and
Technolgy (IIST) in Valiamala
Thiruvananthapuram.**



**ARSHA
Chamundi Hills, Mysuru.**



Indian Institute of
Space Science and Technology (IIST)



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