LBS INSTITUTE OF TECHNOLOGY FOR WOMEN, POOJAPPURA

NEWSLETTER

Department of Electronics and Communication Engineering

S7 ECE

2025

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INTRODUCTION

We are delighted to present the 2025 edition of our departmental newsletter, proudly prepared by the students of ECE. This edition captures the spirit of innovation, teamwork, and creativity that has defined our department throughout the year.

The academic year was marked by a series of vibrant activities and initiatives. The space club engaged the students with exciting events, discussions and explorations into the fascinating world of space, science and technology. Adding to the hands-on learning experience, This edition of our newsletter captures a vibrant phase of academic, creative, and experiential learning at LBS Institute of Technology for Women. From August to November, the campus witnessed a series of inspiring initiatives led by the Space Club of LBSITW, fostering curiosity, innovation, and interdisciplinary engagement through competitions, seminars and outreach programmes to the fascinating world of space science and technology.

Complementing these efforts, the industrial visit to LPSC Valiamala offered students valuable exposure to real-world applications of space technology, bridging theoretical knowledge with practical insight. Adding to this spirit of innovation, the Mini Project Expo organized by the ECE Department provided a dynamic platform for students to showcase their technical skills, creativity, and problem-solving abilities. Together, these activities reflect the institution's commitment to holistic education, experiential learning, and nurturing future-ready professionals who are encouraged to think critically, innovate boldly, and aspire beyond conventional boundaries.

Industrial Visit to LPSC, Valiamala – A Glimpse into India's Space Propulsion Excellence

As part of National Space Week, students from LBSITW had the rare opportunity to visit the Liquid Propulsion Systems Centre (LPSC), Valiamala, Trivandrum — ISRO's premier facility dedicated to the development of liquid propulsion technologies. The visit offered a technical walkthrough of the CE-20 cryogenic engine - India's most powerful cryogenic rocket engine, which powers the LVM3 launch vehicle used in major missions like Chandrayaan. Students witnessed real-time engine testing and gained insights into satellite launch vehicles, propulsion systems, and upcoming ISRO projects.

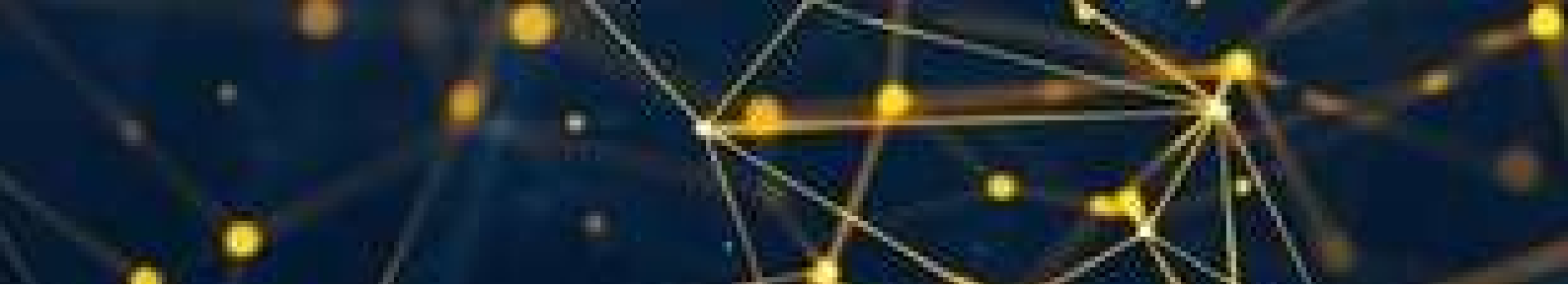
Strict security protocols, including restricted access to personal electronics, highlighted the confidentiality and discipline of the facility. Interactions with LPSC scientists offered valuable technical perspectives on engine design, testing, and launch operations. This visit served as an inspiring academic enrichment activity, deepening students' interest in aerospace systems and advancing their understanding of cutting-edge propulsion technologies.

Date of Visit: 12/08/2025
Organized by: Space Club, LBSITW

National Space Week 2025

India made history on August 23, 2023, by becoming the fourth country to land on the Moon and the first to successfully reach its southern polar region through Chandrayaan-3. Following the soft landing and deployment of the Pragyan Rover at the site named ‘Shiv Shakti’ Point, the Hon’ble Prime Minister Shri Narendra Modi declared August 23 as National Space Day. Building on this legacy, India celebrated an extended National Space Week 2025 with the theme “Aryabhatta to Gaganyaan: Ancient Wisdom to Infinite Possibilities.” The celebrations were held across the nation with the aim of inspiring students and youth to explore the exciting opportunities in space science and technology. The week-long programs highlighted India’s astronomical heritage, space exploration milestones, and future missions, while encouraging young minds to innovate for tomorrow.

A special focus was given to engaging schools and higher education institutions. The University Grants Commission (UGC) and ISRO encouraged universities and colleges to organize activities such as exhibitions, interactive sessions, astronomy quizzes, model-making competitions, and lectures by eminent scientists.



SPACE CLUB ACTIVITIES

SPACE CLUB
LBSITW

The Space Club of LBS Institute of Technology for Women (LBSITW), inaugurated earlier this year, has rapidly evolved into a vibrant platform for nurturing curiosity, creativity, and scientific temper among students. While the club has hosted numerous initiatives since its inception, the period from August to November marked a particularly active and impactful phase. During this time, the Space Club successfully organized a diverse range of events that seamlessly blended science, creativity, and outreach. “Celestial Colours 2.0,” a space-themed painting competition, invited students to translate cosmic imagination into visual art, while “Cosmic Trivia 2.0” challenged participants’ knowledge across astronomy, space missions, and Indian space achievements through engaging quiz rounds. Intellectual engagement was further strengthened through “Celestial Chronicles 2.0,” an essay writing competition centered on the theme “The Final Frontier: AI and the Future of Space Exploration,” encouraging students to critically analyze emerging technologies and India’s growing role in global space research. Complementing these were “Cosmic Tales 2.0,” a science fiction short story and poetry writing competition, and “StarTalk 2.0,” an extempore event that sharpened students’ communication skills while exploring varied perspectives on space exploration. Each of these events reflected the club’s commitment to making space science accessible, interdisciplinary, and intellectually stimulating.

In addition to creative and academic initiatives, the Space Club of LBSITW emphasized experiential learning, outreach, and collaboration during this period. “AstroSummit 2.0,” the club’s flagship seminar series, brought together space enthusiasts to explore recent advancements in space science and technology, bridging the gap between classroom knowledge and real-world applications.

A major highlight of this period was the NASA Space Apps Challenge 2025 Bootcamp, attended by 236 participants, where expert guidance motivated and prepared students to participate in a prestigious global innovation challenge. Collectively, these initiatives reinforced the Space Club’s vision of fostering a future-ready, curious, and socially responsible student community—one that dares to dream beyond the stars while staying grounded in knowledge, creativity, and collaboration.

SYMPOSIUM ON “SPACE VISION 2047 AND BEYOND”

The SPACE CLUB LBSITW, in association with Advaya, organized a Symposium on “Space Vision 2047 and Beyond” on 19th August 2025 as part of the National Space Day celebrations. The event provided a platform to envision India’s space roadmap for the coming decades and to inspire young minds to contribute to national and global advancements in space exploration. It served as a comprehensive platform to explore India’s present achievements and future roadmap in the space sector. The event featured technical addresses and presentations focusing on India’s long-term space ambitions, including human spaceflight, deep-space exploration, and sustainable space technologies. Student teams presented insightful analyses on India’s growth in the global space domain, outlining key upcoming milestones such as Gaganyaan, Chandrayaan-4 (2027), the Venus Orbiter Mission (2028), the Bharatiya Antariksh Station with its first module planned for 2028 and full operational capability by 2035, next-generation reusable launch vehicles, and a human lunar landing by 2040.

The symposium also envisioned post-2047 possibilities, including lunar and Mars habitation, asteroid mining, space-based solar power, orbital debris management, and interplanetary economies. Discussions highlighted the role of emerging technologies such as AI-driven habitats, quantum communication, orbital manufacturing, advanced life-support systems using biological innovations, and deep-space observatories. Emphasis was placed on space applications for national development in agriculture, communication, disaster management, and climate studies, alongside the growing role of private participation and startups in strengthening India’s space ecosystem. Addressing challenges such as space debris, funding constraints, and talent retention, the symposium underscored the importance of indigenous research, innovation, and global collaboration. Overall, the event successfully integrated scientific insight, technical vision, and student innovation, reinforcing India’s potential to emerge as a global leader in space exploration and technology by 2047 and beyond.

Mini Project Expo

The Electronics and Communication Engineering (ECE) department of LBSITW, under its official association ADVAYA, organized a Mini Project Expo on 23rd September to showcase the technical creativity and innovation of its students. The event provided a platform for the current final year students to present working prototypes of their mini projects, developed as part of their academic curriculum. Projects spanned across various domains like IoT, embedded systems, wireless communication, robotics, and automation. The expo aimed to encourage hands-on learning, problem-solving skills, and collaborative teamwork among students. Faculty evaluators assessed each project based on innovation, functionality, and presentation. The event witnessed enthusiastic participation and served as a knowledge-sharing space for peers. ADVAYA continues to foster technical excellence through such events, offering students opportunities to explore real-world applications of electronics engineering beyond the classroom. The Mini Project Expo was a successful initiative towards experiential learning and strengthening the department's culture of innovation.


INTRODUCTION
CIRCUIT DIAGRAM
WORKING
WORKING

ELECTRONICS AND COMMUNICATION ENGINEERING

VISION

To become a center of excellence in Electronics, Communication, Instrumentation and Computer Engineering to facilitate professional education and research keeping higher level of value systems

MISSION

To transform young women to high-quality engineers, entrepreneurs and researchers with ethical values for providing creative engineering solutions and intellectual services to the industry and society by keeping pace with the latest technological advancements by the application of Electronics, Communication, Instrumentation and Computer Engineering.

PROGRAM EDUCATIONAL OBJECTIVES

Our graduates will be able to

- PEO1: Pursue a successful career in the field of Electronics and Communication Engineering utilizing her education and contribute to the profession as an excellent employee or as an entrepreneur.
- PEO2: Demonstrate professional leadership and skills to work in multidisciplinary teams, with good communication abilities and ethical values
- PEO3: Engage in lifelong learning, career enhancement and/or pursue higher education and research

PROGRAM SPECIFIC OUTCOMES

- PSO1: Professional Skills: Applying concepts of Electronics & Communication Engineering to design, develop and implement systems in the areas viz. Analog and digital electronics, Communication, Signal processing micro & nano electronics and Embedded systems and Machine learning
- PSO2: Competitive Skills: Acquired technical knowledge for successful career and achieve proficiency in competitive examinations at the National and International levels
- PSO3: Problem Solving Skills: Technical competence to cater the societal needs in communication, signal Processing and Intelligent System Development

LBS INSTITUTE OF TECHNOLOGY FOR WOMEN, POOJAPPURA

VISION

To be a centre of academic excellence empowering women in technical domain

MISSION

Imparting value-based technical education for transforming young women to professionals excelling globally in academics, research & development and industry meeting societal challenges.