

ए-1-निगि

NextGen@IITB  
Summer School



2026

**A Dedicated Vertical for the  
School Ecosystem by  
Educational Outreach, IIT Bombay**



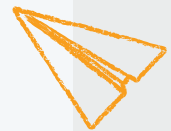
# Vision

“ज्ञानम् परमम् ध्येयम् — Knowledge is the Ultimate Pursuit”

Igniting curiosity and creativity among students (Grades 8 – 12) through immersive, interdisciplinary learning beyond textbooks.

# Mission

- Extend IIT Bombay’s academic excellence to schools
- Foster hands-on, experiential STEM learning
- Build early exposure to higher education ecosystems
- Create future-ready learners through innovation-driven engagement





# NextGen@IITB 2025





## Prof. Usha Ananthakumar

Dean, Educational Outreach  
Indian Institute of Technology Bombay

# From the Dean, Educational Outreach's Desk

At the Indian Institute of Technology Bombay, Educational Outreach is guided by the belief that meaningful academic engagement should extend beyond the campus and reach young learners across the country. In this vision, School Outreach forms a key vertical, enabling students to experience environments that nurture curiosity, inquiry, and exploration.

Enabling school students to experience environments where ideas are questioned, experiments are encouraged, and learning occurs through discovery can be deeply transformative. Such exposure allows young minds to appreciate that education is not only about absorbing knowledge, but about thinking critically, asking questions, and exploring possibilities.

One such initiative in this direction is NextGen@IITB, which aims to offer school students an early glimpse into the spirit of inquiry and hands-on learning that defines IIT Bombay.

We believe that when young minds from different parts of our society are given the opportunity to engage with spaces of inquiry and discovery, it can ignite curiosity, aspiration, and confidence. In doing so, such exposure also contributes meaningfully to the larger process of nation building by encouraging the next generation to think critically, engage thoughtfully with real-world challenges, and envision their role in shaping a better future.

When curiosity is encouraged at the right age, it can shape aspirations and inspire the thinkers, creators, problem-solvers, and leaders of tomorrow.





## Mr. Ajey Mehta

CEO, Educational Outreach  
Indian Institute of Technology Bombay

# From the CEO, Educational Outreach's Desk

The School Outreach vertical at the Indian Institute of Technology Bombay is being developed as a structured and scalable initiative to extend the institute's academic engagement beyond campus boundaries and meaningfully connect with the school ecosystem.

Aligned with the vision of the National Education Policy (NEP) 2020, the initiative seeks to enable early exposure to interdisciplinary domains, promote experiential learning, and encourage inquiry-driven thinking among school students. It is designed to bridge the gap between school education and higher academic environments by providing access to institutional expertise through curated lectures, laboratory sessions, and project-based learning experiences.

Within this broader framework, NextGen@IITB serves as a flagship programme for high school students, positioned within the School Outreach ecosystem, introducing them to diverse domains such as Artificial Intelligence and Data Science, Robotics, Biosciences, and Design. The programme is structured to foster discovery-driven learning by enabling students to explore, experiment, and engage with real-world applications beyond the scope of conventional curricula. It also supports informed academic and career decision-making at a critical stage preceding higher education.

Building on this, the School Outreach vertical is designed as a multi-stakeholder platform that engages not only with students, but also with educators and institutions. In addition to student-focused programmes, dedicated efforts are directed towards empowering teachers through capacity-building initiatives and pedagogical interventions that enhance classroom engagement and improve learning outcomes.

The overarching intent of this vertical is to create a cohesive ecosystem that nurtures curiosity, enables early academic exploration, and supports informed decision-making. By developing structured and scalable interventions across learner groups, the initiative aims to contribute meaningfully to the larger goal of building a future-ready, skilled, and thoughtful generation aligned with national priorities and nation-building objectives.





# Programme Leadership's Message



## Dnyaneshwari Joshi

Programme Lead, School Outreach  
Educational Outreach  
Indian Institute of Technology Bombay

“

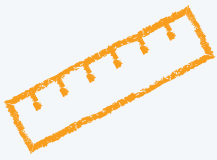
*“Ignited minds need direction as much as curiosity – and meaningful exposure can turn that spark into purpose.”*

The School Outreach vertical at the Indian Institute of Technology Bombay has been conceptualised as a structured and evolving platform to engage with the school ecosystem through well-designed academic interventions.



Aligned with the vision of NEP 2020, the approach focuses on moving beyond conventional, siloed learning towards interdisciplinary, experiential, and inquiry-driven exposure at an early stage. The objective is to create programmes that not only introduce students to emerging domains, but also help them understand how knowledge is applied across contexts.

Within this framework, School Outreach initiatives are being developed across three key wings —



1. School students
2. Educators (teachers)
3. Institutional leadership — each addressing a different dimension of academic engagement and capacity building.

For school students, this vision comes to life through a set of thoughtfully curated programmes—each designed with a clear learning objective and a unique format within the IIT Bombay ecosystem. These include:

Makerspace

Infinity Juniors

NextGen@IITB

NextGen@IITB Summer School is a five-day interdisciplinary day-scholar programme designed for students of Grades 8 to 12, hosted by Educational Outreach at the Indian Institute of Technology Bombay.

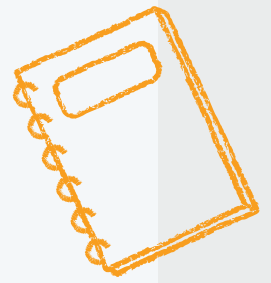
The programme provides early exposure to engineering, science, and innovation through structured engagement with academic departments, laboratories, and innovation facilities within IIT Bombay.

Designed in a “5 Days – 5 Domains” format, each day focuses on a different area, combining conceptual understanding with hands-on demonstrations, guided experimentation, and interactive sessions led by faculty, researchers, and domain experts.

Through this experience, students gain insight into how scientific and engineering disciplines are applied to solve real-world challenges, while developing a deeper appreciation for interdisciplinary learning and innovation.

***“The true value of such initiatives lies not just in what students learn, but in how they begin to think, explore, and shape their own journeys ahead.”***





# About the NextGen@IITB Programme

NextGen@IITB Summer School is a five-day interdisciplinary Day-Scholar immersion programme designed for students of Standards 8 to 12, hosted by Educational Outreach at the Indian Institute of Technology Bombay.

The programme is envisioned as one of the key school engagement initiatives aimed at providing meaningful early exposure to engineering, science, and innovation for school students.

The initiative introduces students to diverse domains through direct engagement with academic departments, laboratories, and innovation facilities within IIT Bombay.

Structured in a “5 Days – 5 Domains” format, each day focuses on a different technology or engineering area, combining conceptual introductions with hands-on demonstrations, practical exposure, guided experimentation, and interactive learning sessions facilitated by faculty teams, researchers, and innovation labs.

Through this experience, students gain an early understanding of how different scientific and engineering disciplines contribute to solving real-world challenges and shaping future technologies.

---





# Programme Highlights

✓ **5 Days | 5 Domains**

A structured interdisciplinary experience across Biosciences, AI & Data Science, Robotics, Design, and Innovation.

✓ **Hands-on Learning at IIT Bombay**

Engage within labs, makerspaces, and academic environments through guided activities and demonstrations.

✓ **Faculty & Researcher Interaction**

Learn directly from IIT Bombay faculty, researchers, and domain experts through curated sessions.

✓ **From Concepts to Application**

Understand how science, engineering, and design translate into real-world solutions.

✓ **Problem-Solving & Innovation Focus**

Develop analytical thinking, creativity, and structured problem-solving skills.

✓ **Early Academic & Career Exposure**

Gain clarity on emerging fields and make informed academic and career choices.



## Programme Details

- **Duration:** 5 Days
- **Dates:** 22nd – 26th June 2026
- **Format:** Day-Scholar Programme
- **Structure:** Concept Sessions + Hands-on Exposure + Lab Visits + Interaction





# Programme Schedule

## IIT Bombay – Nextgen@IITB Summer Programme 2026

### 5-Day Schedule Overview

22 June - 26 June, 2026

Educational Outreach, IIT Bombay

### Daily Time Slots

Time	Day 1 (AI Day) 22 June 2026	Day 2 (Makerspace) 23 June 2026	Day 3 (SysCon/Robotics) 24 June 2026	Day 4 (BSBE) 25 June 2026	Day 5 (IDC Day) 26 June 2026
09:00–10:00	Registration & Inaugural (EO)	–	–	–	Session 1
10:00–11:00	Session 1	Session 1	Session 1	Session 1	Session 2
11:00–11:15	Break	Break	Break	Break	Session / Break
11:15–01:00	Session 2	Session 2	Session 2	Session 2	Session 3
01:00–02:00	Lunch	Lunch	Lunch	Lunch	Lunch
02:00–03:30	Session 3	Session 3	Session 3	Session 3	Session 4
03:30–03:45	Break	Break	Break	Break	Break
03:45–05:15	Session 4	Session 4	Session 4	Session 4	Feedback & Valedictory

### Programme Venue by Day

- Day 1: SINE Seminar Hall (Rahul Bajaj Bldg. 5<sup>th</sup> Floor)
- Day 2: Makerspace (Dept. of Energy Sci. & Engg. Bldg. , 1<sup>st</sup> Floor)
- Day 3: SysCon / Robotics (ARMS Lab, 1<sup>st</sup> Floor)
- Day 4: BSBE (BioScience & Bio Engg. Lab)
- Day 5: FC Kohli Auditorium

### Faculty Coordinators

- AI & NextGen: Prof. Sawan Rathi / Dr. Khushaal Popli
- Makerspace: Prof. Amber Srivastava
- SysCon: Prof. Leena Vachhani
- BSBE: Prof. Swati Patankar
- IDC: Prof. Sugandh Malhotra
- EO Coordination: Dnyaneshwari Joshi





# Participating Faculty & Experts



**Prof. Swati Patankar**  
 Department of Biosciences & Bioengineering  
 Molecular microbiologist with expertise in gene regulation and disease biology, linking research with real-world applications



**Prof. Leena Vachhani**  
 Systems & Control Engineering  
 Associate Dean R and D Expert in robotics, embedded systems, and autonomous technologies, contributing to advanced engineering learning.



**Prof. Amber Srivastava**  
 Prof. In-charge - Makerspace IIT Bombay  
 Specialist in advanced manufacturing and prototyping, promoting hands-on innovation and design-based learning.



**Prof. Sawan Rathi, SJMOM**  
 Works in artificial intelligence and emerging technologies, focusing on practical understanding and future applications.

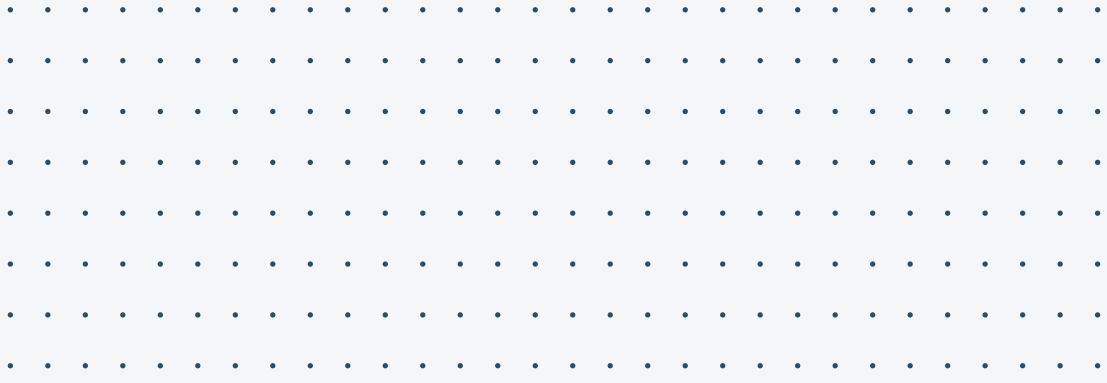


**Prof. Sugandh Malhotra**  
 IDC School of Design  
 Expert in design thinking and user-centric innovation, emphasizing creative and structured problem-solving.



**Dr. Khushaal Popli**  
 Chief Operating Officer at CMINDS  
 Leads center's efforts in applied AI, digital transformation, industry partnerships, leveraging extensive experience in data science and optimization.





शैक्षिक प्रसार  
Educational Outreach

## – Get In Touch –

 [www.cep.iitb.ac.in](http://www.cep.iitb.ac.in) |  [schooloutreach@eo.iitb.ac.in](mailto:schooloutreach@eo.iitb.ac.in)  
 [educational\\_outreach\\_iitb](https://www.instagram.com/educational_outreach_iitb) |  Educational Outreach, IIT Bombay