

Post-Event Report

REPORT ON YOUNG INNOVATORS STEM LAB (YISL) WORKSHOP

Date: 8 September 2026

Venue: Dr. Sudhir Chandra Sur Institute of Technology & Sports Complex (SURTECH), Kolkata, Dumdum, Kolkata

Participants: 140 students from SURTECH and Other colleges of the JIS Group.

Introduction

The **Young Innovators STEM Lab (YISL)** workshop was organized on **8 September 2026** at **Dr. Sudhir Chandra Sur Institute of Technology & Sports Complex, Kolkata**, with the objective of encouraging innovation, creativity, hands-on learning, and technology-oriented problem solving among students. The workshop focused particularly on **AR/VR technologies, Web-based application development, Design Thinking, prototyping, and innovation pitching.**

A total of **140 students from different colleges of the JIS Group** participated in the programme, providing them with an opportunity to collaborate, learn emerging technologies, and develop innovative solutions.

The programme commenced with the inaugural session. The welcome remarks were delivered by **Prof. Dr. Saradindu Panda, Principal, Dr. Sudhir Chandra Sur Institute of Technology & Sports Complex**, along with **Dr. Chaitali Bhattacharya, Executive Director, Indo-U.S. Science and Technology Forum (IUSSTF)** and **Dr. Soumen Basu, Registrar, Dr. Sudhir Chandra Sur Institute of Technology & Sports Complex.**

The programme was also attended by **Priya Thomas, Senior Program Officer, IUSSTF**, and **Dharam Raj Panwar, Co-Founder, STEAM Varsity and Principal Executive Director, IUSSTF.**

Total program coordinated by **Dr. Arindam Sadhu, Assistant Professor, Department of ECE**, **Suvendu Mondal Assistant Professor, Department of EE** and **Sourav Kumar Singha, Assistant Professor, Department of CE.**

Orientation and Team Formation

The first phase of the workshop was conducted by **Mr. Dharam Raj Panwar** provided an overview of the programme, its objectives and expected outcomes, along with guidelines for the safe use of VR equipment.

Interactive icebreaker activities were conducted to promote teamwork and introduce students to **STEAM pedagogies and hands-on learning.** The participants were subsequently divided

into **20 teams of 10 members each**. Each team nominated a captain and selected a team name.

Students were also introduced to the basic setup and installation of **Visual Studio Code, GitHub, and the WebXR framework**, preparing them for the practical development activities that followed.

Hands-on AR/VR Application Development

The second phase, titled “**Building AR/VR Apps – Learning by Doing,**” was conducted.

The session began with an introduction to the history of **Virtual Reality (VR), the Metaverse, and their real-world applications**. Students received a foundation in **HTML, CSS, and JavaScript**, followed by an introduction to WebVR frameworks.

Through practical activities, participants developed basic virtual scenes involving object placement and texture loading. They also explored the design of user interfaces and the integration of animated 3D models.

Students were guided in hosting their projects on live servers or GitHub and were given the opportunity to experience and test their own creations using **Meta Quest headsets**. The session also introduced the fundamentals of **Augmented Reality (AR)** along with hands-on toolkit testing.

Design Thinking, Prototyping and Pitch Presentation

The third phase was focused on **Design Thinking, prototyping, and presentation skills**.

Students were introduced to the five-stage Design Thinking process based on the **Stanford d. school framework: Empathize, Define, Ideate, Prototype, and Test**.

Working in teams, students used empathy-based approaches to identify user needs and formulate meaningful problem statements addressing global challenges. They then developed basic **AR/VR mock-ups or functional prototypes** as potential solutions.

The programme concluded its major activity component with a **2-minute pitch presentation by each team**, where students presented their identified problem, proposed solution, and prototype. This activity encouraged students to develop not only technical capabilities but also communication, teamwork, creativity, and entrepreneurial thinking.

Outcome of the Programme

The YISL workshop provided participating students with valuable exposure to emerging technologies and innovation methodologies. The programme successfully combined **technical learning with experiential education**, enabling students to move from basic coding concepts to the creation and testing of immersive AR/VR applications.

The integration of **AR/VR development, Design Thinking, prototyping, teamwork, and pitching** helped participants understand the complete innovation journey—from identifying a problem to developing and communicating a potential technological solution.

With **140 students participating from different JIS Group colleges**, the programme also created a collaborative environment for interdisciplinary interaction and knowledge sharing.

Some Prototypes highlights can include in the report:

1. Sundarban VR
2. Haunted VR
3. Tram Ride VR
4. Moon VR
5. Glacier Sentinel VR - Painting on Ice Glaciers
6. Kolkata Ganges Riverfront & Ghat VR
7. Shubho Bijoya - Virtual Kolkata Puja Mela
8. NCC Defence VR Forge
9. Rain-Shield VR

Conclusion

The Young Innovators STEM Lab workshop served as an effective platform for nurturing **innovation, creativity, technical competence, collaboration, and problem-solving abilities** among students. The hands-on exposure to AR/VR technologies and structured Design Thinking methodology encouraged participants to explore emerging technological possibilities and develop solutions to real-world challenges.

The programme is expected to contribute towards building a stronger culture of **STEM learning, innovation, entrepreneurship, and technology-driven problem solving** among students of the SURTECH and JIS Group.

****Photos are attached separately****