



SUMMER LAB PROGRAM 2025

For Students of Classes 9 to XII

 JUNE 2025

PROGRAM 1

**Intensive Training
Summer School on
Emerging Generative AI
Trends**

PROGRAM 2

**Intensive Training
Summer School on
Biotechnology Trends**

PROGRAM 3

**Personality
Development
through Theatre
& Film Making**



 **IDEAS
THAT
MATTER**

Dear Innovators,

I welcome you to the **Summer Lab Program 2025** at Shoolini University, **ranked #1 in India and #6 in Asia in Research**. India is on the cusp of becoming the research destination of the world, and it is individuals like you who will transform this vision into reality.

Program Highlights

Immersive Learning

Experience hands-on research in our world-class laboratories.

Innovative Ideation

Explore new possibilities and innovative ideas in STEM fields.

Subject-Specific Programs

Choose from specialized programs in Biotechnology or Finance.

Inspirational Himalayan Campus

Discover our award-winning library, sports facilities, and pine courts. Immerse yourself in the unique environment of Shoolini amidst the majestic Himalayas.

Join us for an enriching experience where you will develop a research mindset, gain practical skills, see the world through a new lens.

We eagerly await your arrival at our vibrant campus, where we will create memories and learn from each other. Get ready to embark on a journey of discovery and innovation.

See you soon!

Prof. Atul Khosla

**Founder and Vice-Chancellor,
Shoolini University**

Alumnus of McKinsey Oliver Wyman,
IIT Kanpur and JBIMS

**Innovation
is at the heart of
The Shoolini Experience.**

We take great pride in our identity as a top research university.



NO.1



PRIVATE UNIVERSITY

IN INDIA



QS WORLD UNIVERSITY RANKINGS® 2024

1 PRIVATE UNIVERSITY IN INDIA

1 PRIVATE UNIVERSITY IN INDIA
Citations Per Faculty

5 PRIVATE UNIVERSITY IN INDIA
Employer Reputation

5 UNIVERSITY IN INDIA
International Faculty

TIMES HIGHER EDUCATION WORLD UNIVERSITY RANKINGS 2024

1 PRIVATE UNIVERSITY IN INDIA

1 UNIVERSITY IN INDIA
Research Quality

1 UNIVERSITY IN INDIA
International Outlook

QS SUSTAINABILITY RANKINGS® 2024

5 UNIVERSITY IN INDIA
Environmental Sustainability

112 UNIVERSITY GLOBALLY
Environmental Sustainability

THE IMPACT RANKINGS® 2023

TOP 200
UNIVERSITY, GLOBALLY

NIRF INDIA RANKINGS® 2023

Ministry of Education, GoI

73 IN INDIA AMONG ALL UNIVERSITIES

41 PHARMACY
101-125 MANAGEMENT
101-150 ENGINEERING

ACCREDITATIONS



○ **Important dates & Other Info**



Summer Lab Program

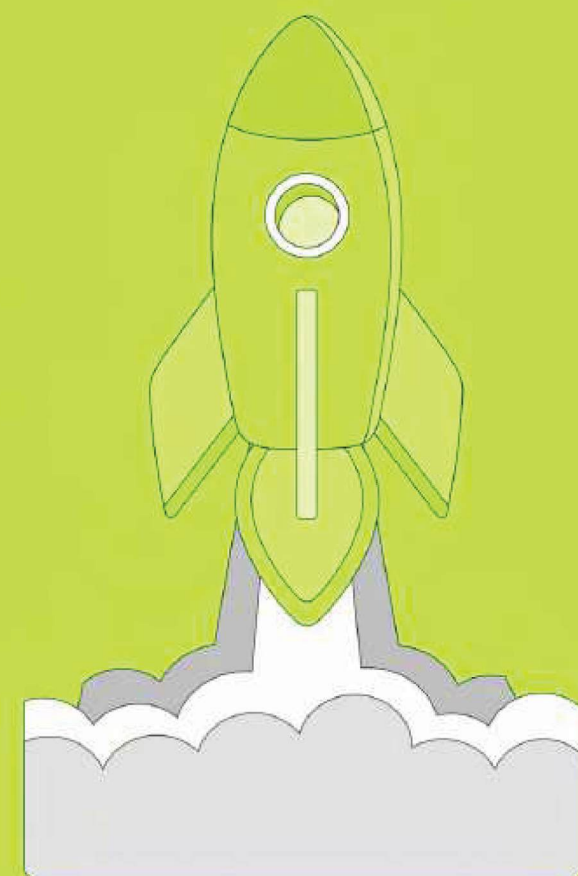
June 16th - June 20th 2025(Cohort 1)

June 23rd - June 27th 2025(Cohort 2)

Eligibility Students from Classes IX to XII

Application Fee INR 1000

Summer Patent School 2025 is a fully residential program held at the scenic Shoolini University Campus in Kasauli Hills, Himachal Pradesh.

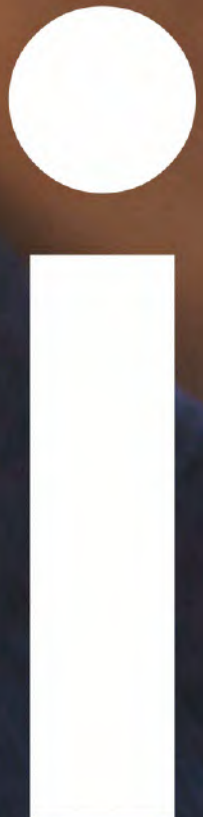




At the Summer Lab Program, you will :

- Collaborate with the **World's Top 2% Global Scientists and Researchers**
- **Immerse yourself in nature** with treks through pine forests and serene courtyards
- Kickstart your journey to **innovation and discovery**
- **Gain hands-on research experience** in state-of-the-art laboratories
- Tailor your experience with **specialized programs in Biotechnology, Computer Sciences or FinTech**
- Join a lifelong **global research community**
- **Unleash your creativity** amidst the beauty of nature
- Unwind at our **award-winning sports facilities**





**Imagine. Innovate. Invent.
Explore. Experience. Excel.**

Absolutely LOVE Summer Lab School

**Intensive Training
Summer School on**

Emerging Generative AI Trends



- **Essentials of Artificial Intelligence and Machine Learning**

- **Principles of Deep Learning and Neural Network Architectures**

- Linear Regression
- Logistic Regression
- Random Forest
- Decision Trees
- SVM,
- CNN,
- RNN,
- LSTM,
- Mobile Net,
- Efficient Net.

- **Concrete Mathematical Foundations of Generative AI.**

- **Introduction to Generative AI: Concepts and Core Algorithms.**

- Word Embedding Algorithms
 - Word2Vec
 - GLOVE

- **Exploring Deep Learning Architectures in Generative AI.**

- Transformer architecture in detail
- Large Language Models (LLMS)
- Chat-Gpt
- Dalle
- Diffusion Models

Creative AI

The Intersection of Technology and Art

Text Generation in Natural Language

Processing:

- BERT for NLP
- ChatGPT for NLP

The Art of Synthetic Image and Video

Creation:

- ViT for image and video content.
- Dalle
- Diffusion for image synthesis

Voice Synthesis and the Future of Audio in AI

- Multimodal models in Generative AI

Ethics in AI: The Generative Perspective.

Practical Applications: Generative AI in the Real World.

- Health Care
- Education Sector
- Industry transition

Gemini



stability.ai

 OpenAI

 ChatGPT

 DALL-E





Biotechnology Summer Lab Program

Interdisciplinary Insights:
*From Artistic Microbial Streaks
to Genetic Sleuthing and
Nanoparticle Microstructure
Analysis*

This interdisciplinary Summer School Research Program aims to integrate Biotechnology artistic expression and scientific exploration, focusing on practical applications such as **"Exploring the World of Streaking Methodology," "Genetic Sleuths: Unmasking the Mystery Species through Sequence Sleuthing,"** and **"Investigating Nanoparticle Microstructure using Field Emission Scanning Electron Microscope (FESEM)."**

1. "Exploring the World of Streaking Methodology: A Creative Journey for the Summer School Students"

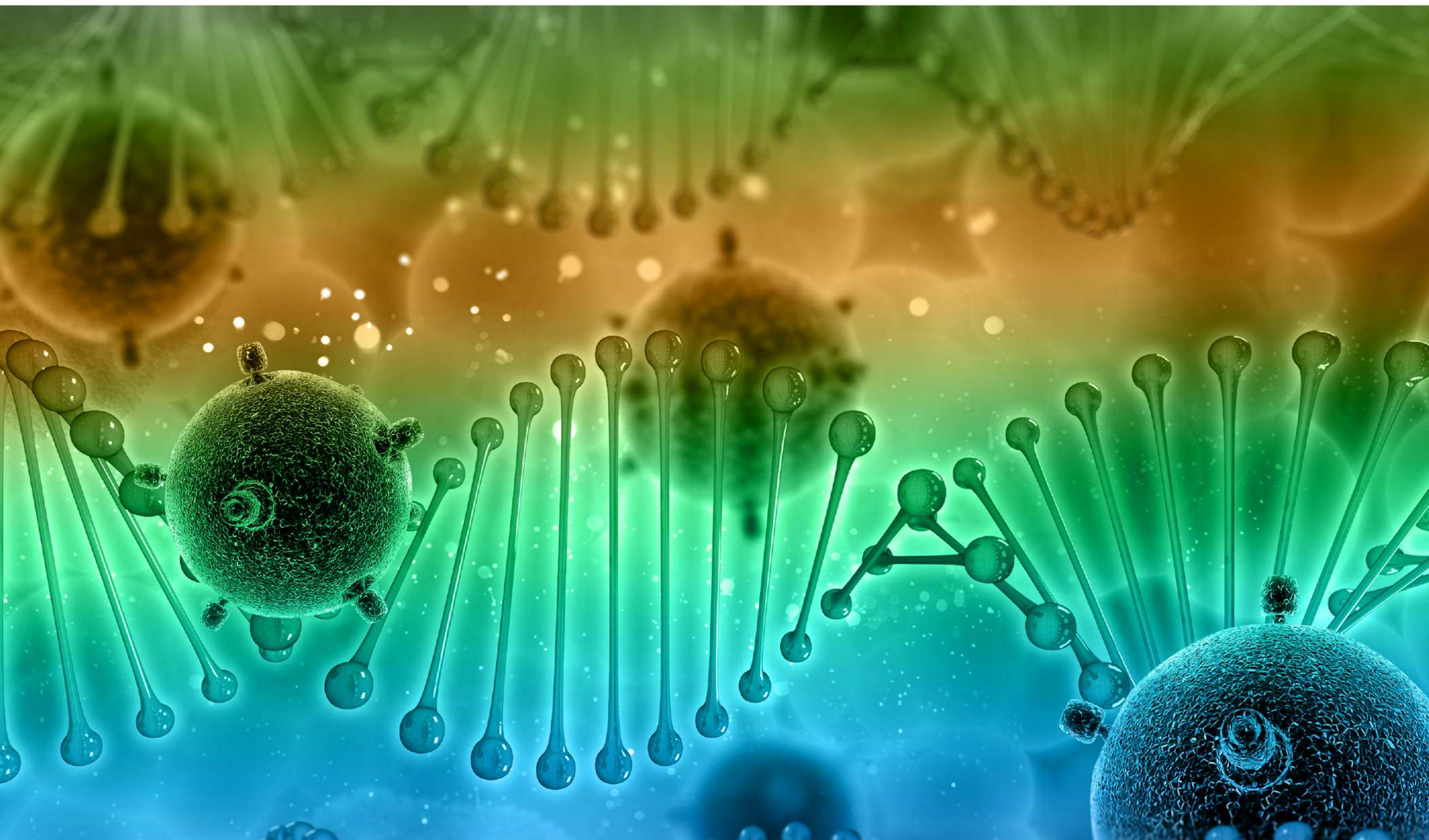
This program aims to introduce students to various streaking methodologies, fostering their creativity and understanding of artistic expression. Streaking, as an art form, goes beyond conventional boundaries, allowing students to experiment with different techniques and styles. From traditional brush strokes to unconventional methods like splatter, pour, and drip painting, participants will explore the vast spectrum of streaking methodologies. The course will emphasize hands-on learning, encouraging students to develop their unique artistic voices while gaining a comprehensive understanding of the historical and contemporary aspects of streaking in the art world. Through a series of engaging workshops, demonstrations, and practical sessions, students will enhance their artistic skills, broaden their perspectives, and gain confidence in expressing themselves through streaking. This course promises a dynamic and enriching experience, providing a platform for young artists to discover and celebrate their creative potential.

2. Genetic Sleuths: Unmasking the Mystery Species through Sequence Sleuthing

Embark on a thrilling journey as bio-detectives in our workshop! Students will become genetic detectives, using sequence similarity and phylogenetic analysis to unveil the identity of an unknown species. Through hands-on exploration, participants will compare DNA sequences, decode the clues, and construct a phylogenetic tree to solve the mystery. Get ready for an exciting blend of biology and investigative skills, as you uncover the secrets of the biological world and sharpen your scientific sleuthing abilities!

3. To study the microstructure of nanoparticles by using Field Emission Scanning Electron Microscope

To investigate the microstructure of nanoparticles a sample will be prepared and loaded into the FESEM chamber. The sample will be observed by using the microscope at optimized working distance and acceleration voltage. The demonstration will help students to understand the basics of the FESEM working and sample preparation. Additionally, the data interpretation will be demonstrated.



Research Outcomes:

Course 1: Exploring the World of Streaking Methodology

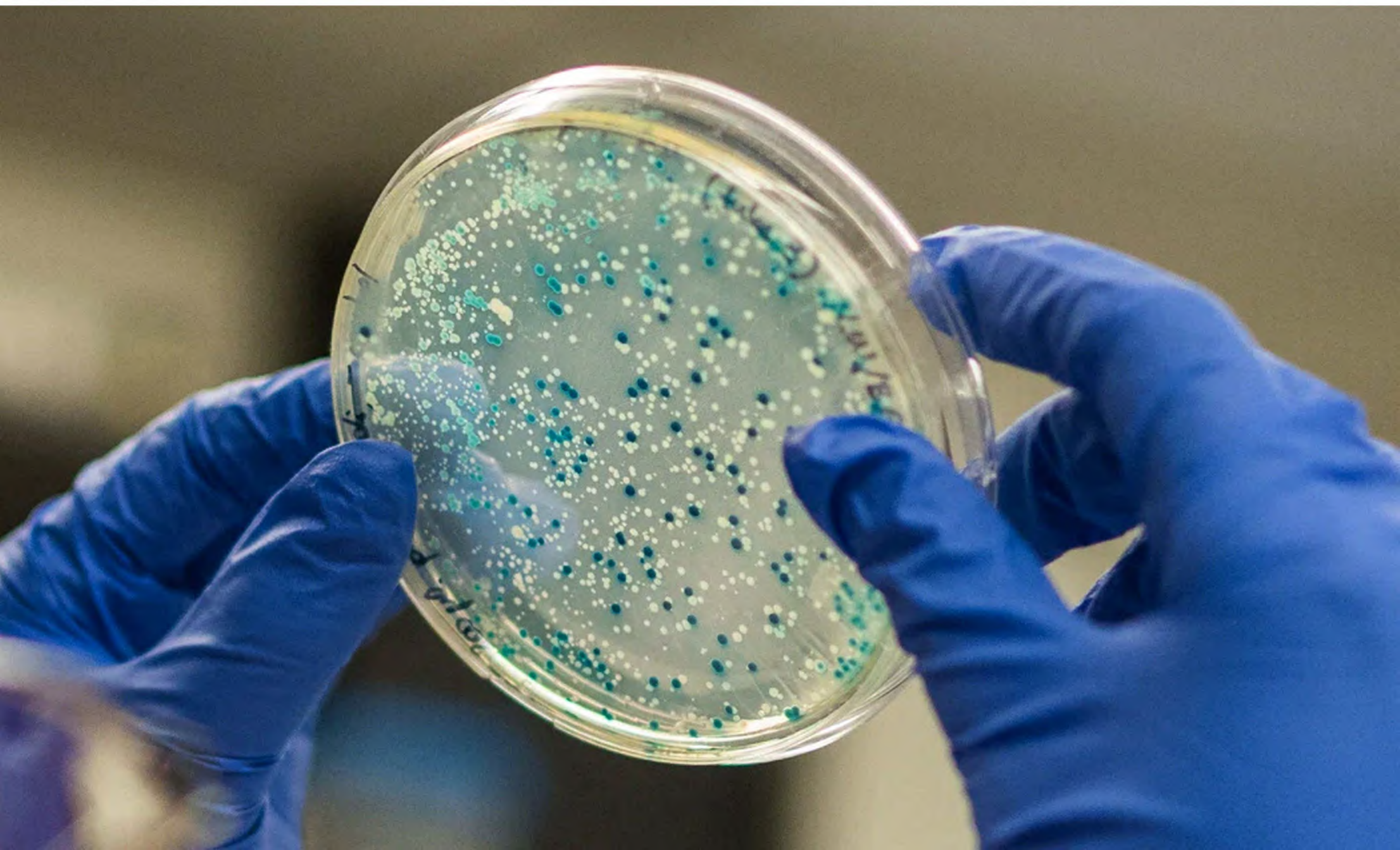
Research Outcome:

- Participants will develop a diverse Knowledge of streaking techniques, showcasing their creative expression.
- Increased understanding of the historical and contemporary aspects of streaking in the art world.
- Enhanced confidence and proficiency in expressing oneself through various streaking methodologies.

Course 2: Genetic Sleuths: Unmasking the Mystery Species through Sequence Sleuthing

Research Outcome:

- Participants will acquire practical skills in genetic analysis, including sequence comparison and phylogenetic tree construction.
- Increased understanding of bioinformatics tools and their application in solving biological mysteries.
- Improved scientific sleuthing abilities through hands-on exploration of DNA sequences.





Course 3: Investigating Nanoparticle Microstructure using FESEM

Research Outcome:

- Participants will gain practical experience in sample preparation and FESEM operation.
- Improved understanding of nanoparticle microstructure through direct observation at optimized working distance and acceleration voltage.
- Enhanced skills in data interpretation and analysis, crucial for future research in nanotechnology.

Overall Impact:

- Participants will benefit from a holistic learning experience, bridging the gap between artistic expression and scientific investigation.
- Increased interdisciplinary awareness, fostering a well-rounded approach to problem-solving.
- Participants will be equipped with valuable skills and knowledge applicable to both artistic and scientific endeavours, promoting versatility and adaptability.

This interdisciplinary program not only promises a dynamic and enriching educational experience but also sets the stage for participants to become versatile individuals capable of contributing to various fields, bridging the gap between art and science.

Summer School Program on

Personality Development

through *Theatre & Film Making*

Course Description:

This course is designed to enhance creative and imaginative prowess in students through the practice and discipline of Performing Arts, where budding artists who aim to be in the public sector such as Entertainment, practitioners, researchers and students try to explore possibilities through few fundamental questions 'How the inner-self manifest in artistic expression? What is artistic expression and how can we savor the Rasa through performance. How to design an effective personality/character for interviews, performances, moot courts, business meetings and acting in the entertainment industry. How to understand culture and creative expression?'. The aim of this course is to nurture the inner confidence and to enable the student to have an influencing and charming personality. The course introduces to the basics of theatre and film making to develop individual creative expression.

Course Content:

Unit-A: History and Historiography of Performance Culture

Introduction to theatre and performance. Basic History of, Folk, Classical, Modern and Post-Modern performance practices around the world. Imagination and Creativity. Introduction to existing technique and skills. Aesthetics and ethics of performance

Unit-B: Body Practice in a Space

Body quality, Intentions and Psychophysical body movements, Gestures, Postures, Expressions and emotions. How space contributes to build a performance effective use of space and found objects.

Unit-C: Vocal Work

Understanding voice, volume, pitch and resonance. Vocal exercises, Monologue and speech delivery

Unit-D: Basics of Film Making and visual Culture

Construction of Mise-en-scene, performance making and acting, production of artistic video work and a theatre production

Course Outcomes:

1. Knowledge Outcomes:

At the end of the course, the student should be able to:

- Understand and Critically analyze theatre and performance.
- Understand people, groups, communities in India and their cultural practices.
- Should have attained Body strength, flexibility, mobility and endurance
- Should be able to perform on stage, deliver a monologue, speech or give a presentation
- Should have gained confidence in his/her personality
- Should be able to make a film and generate art work whether it is poetry, script, song, dance or acting.
- Should be able to design the space for specific events and performance
- Should be able to compete in cultural programs at local, national and international platforms
- Develop strategy how to build and perform a theatre production from scratch

2. Skill Outcomes:

At the end of the course, the student should be able to:

- Move the body with awareness and precision.
- Deliver monologue, speech on spot on any given subject
- Should be able to emote, express and articulate thoughts with clarity
- Should be more confident with their personality
- Should be able to understand the functional & professional aspects of running a theatre production





PROGRAM INSTRUCTOR

Ankur Bashar

Alumni
National School of Drama (NSD)

Research Fellow
Ministry of Culture, Gol

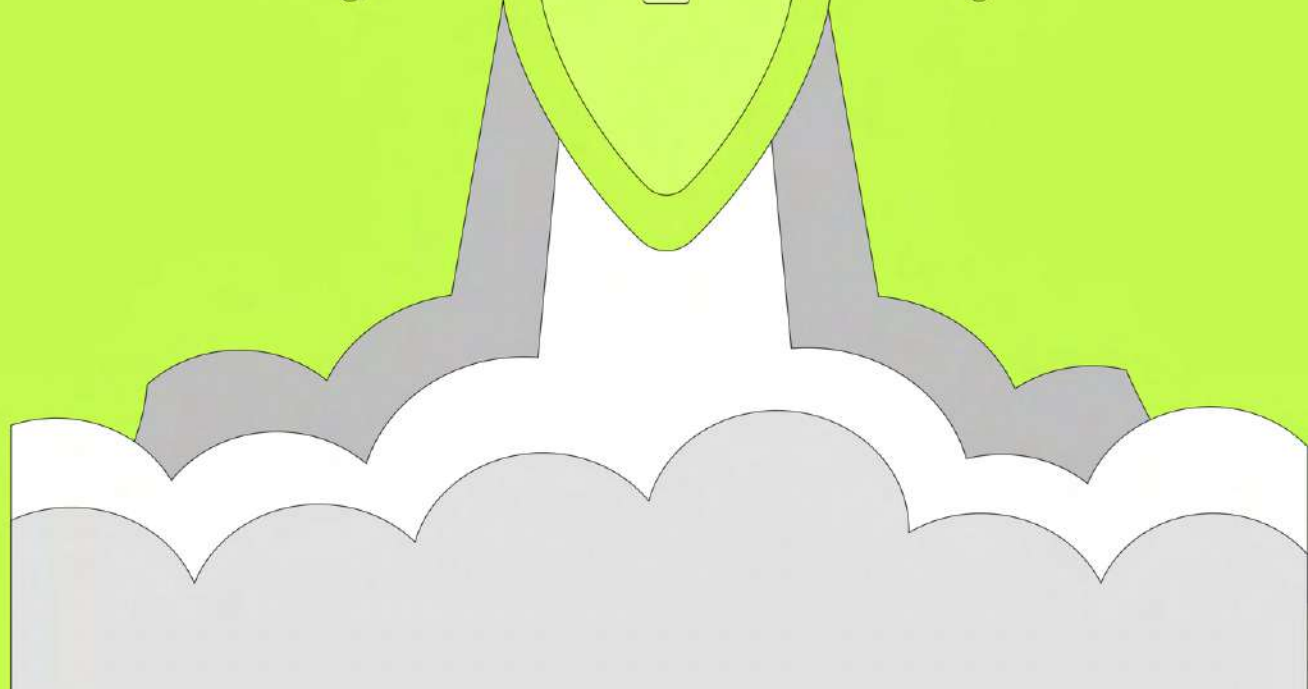
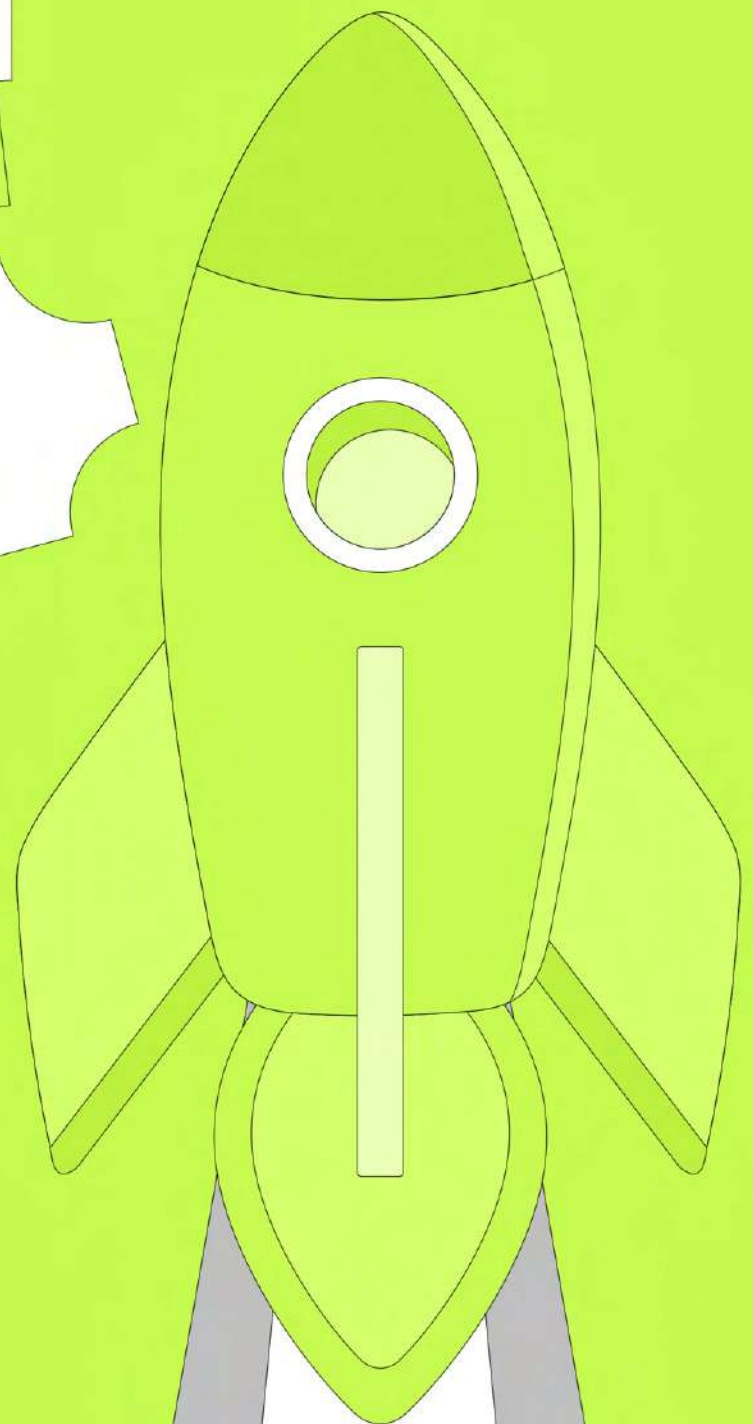
Ankur Bashar is an international educator, performer, thespian, director, voice coach, performance artist, poet, and playwright. He holds a Master's in Performance Studies from Ambedkar University and a Master's in Acting from the prestigious National School of Drama. Currently, he is a Junior Research Fellow for the Ministry of Culture. His research focuses on Nada Yoga and the Roy-Hart Vocal Technique. Ankur travels across India to understand and discover vocal techniques. He is a visiting faculty member at Shree Ram Centre for Performing Arts, Rabindranath Tagore University, Bhopal. He was honored by the Chief of Indian Staff, S. Hari Kumar, for his contribution to Indian theatre. A recent addition to his repertoire is psycho-physical movement and psycho-vocality. He currently teaches at Shoolini University as an Assistant Professor of Performing Arts.



**SUMMER
LAB
PROGRAM**
& Summer Patent School

SUCCESS

STORIES



Young Research Fellow 2022

HARPUNEET SINGH

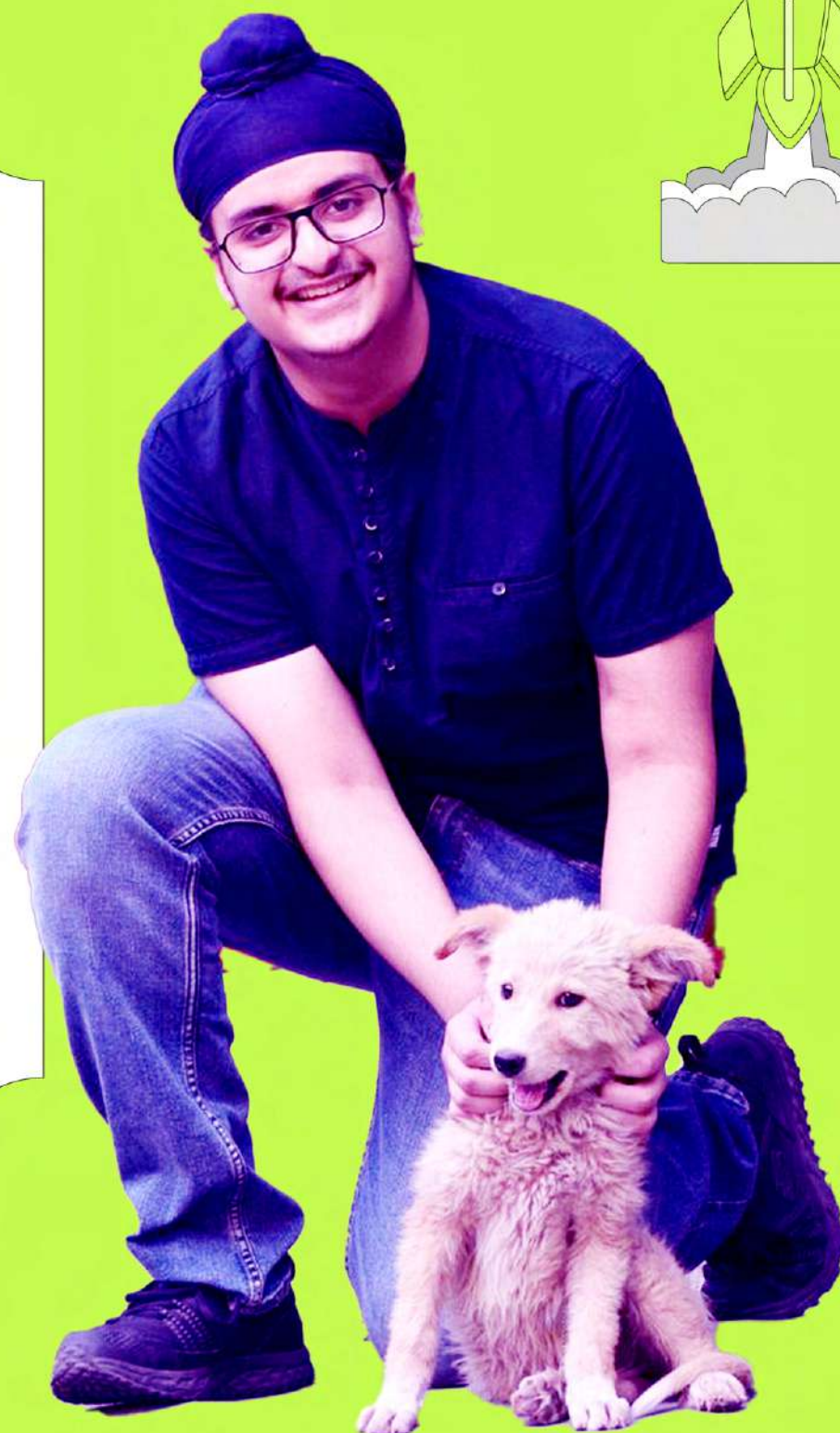
Learning Paths School, Mohali



Now a Freshman in CS
(Computer Science) at



UNIVERSITY OF
TORONTO



Young Research Fellow 2023

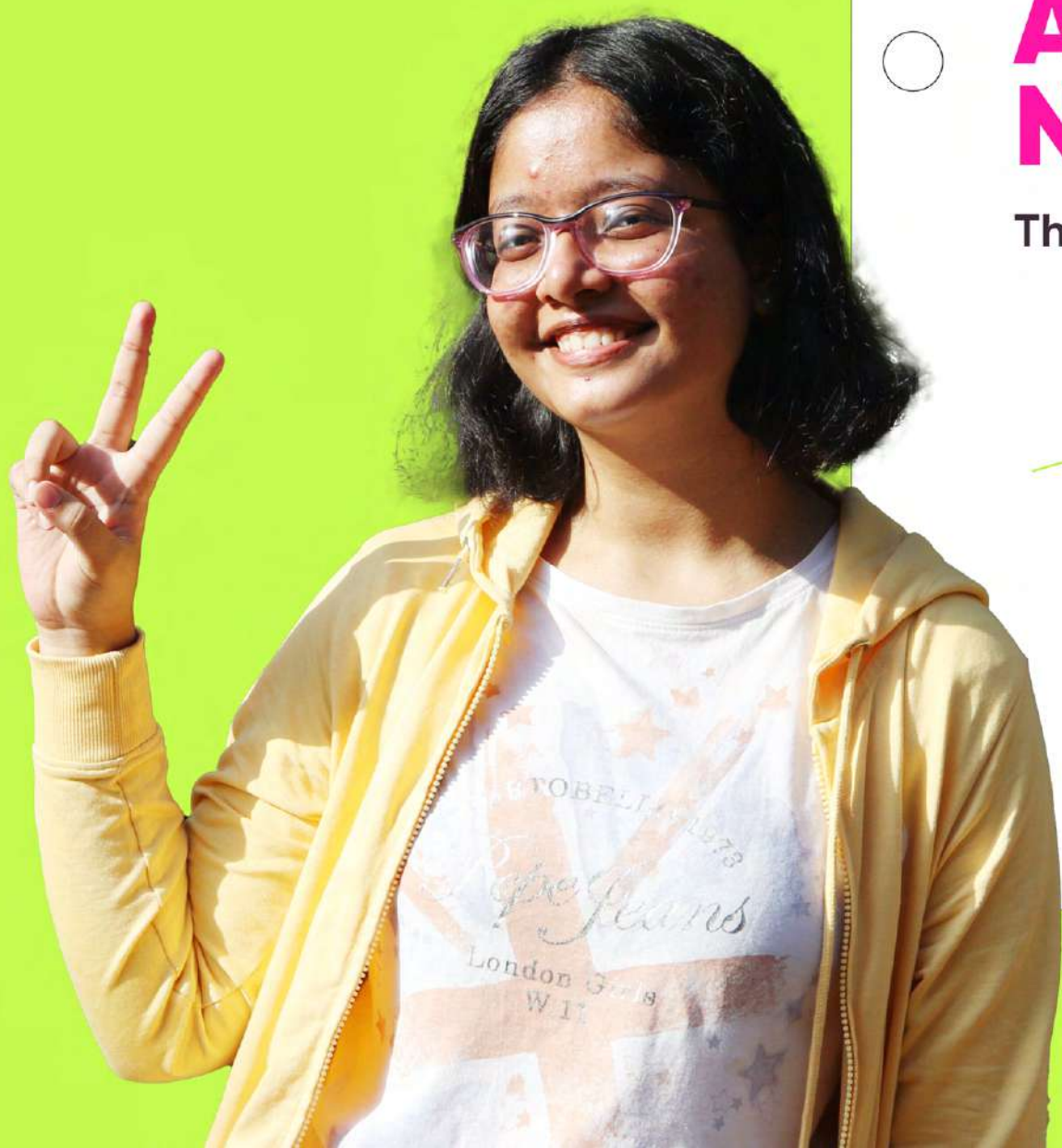
ANAHITA NAIDU

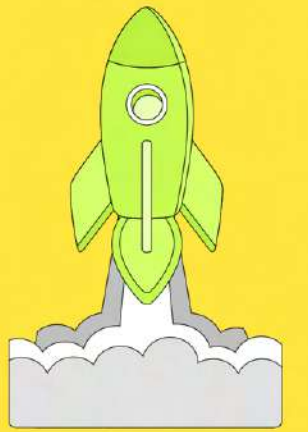
The Emerald Heights International School, Indore



Now CS Major on a
Scholarship worth ₹2 Cr at

S Syracuse
University





Young Research Fellow 2023



**ARYA
MISHRA**

The Emerald Heights International School, Indore

Now a Computer
Science Major at

 **DeAnza
College**
Cupertino, California



Young Research Fellow 2023

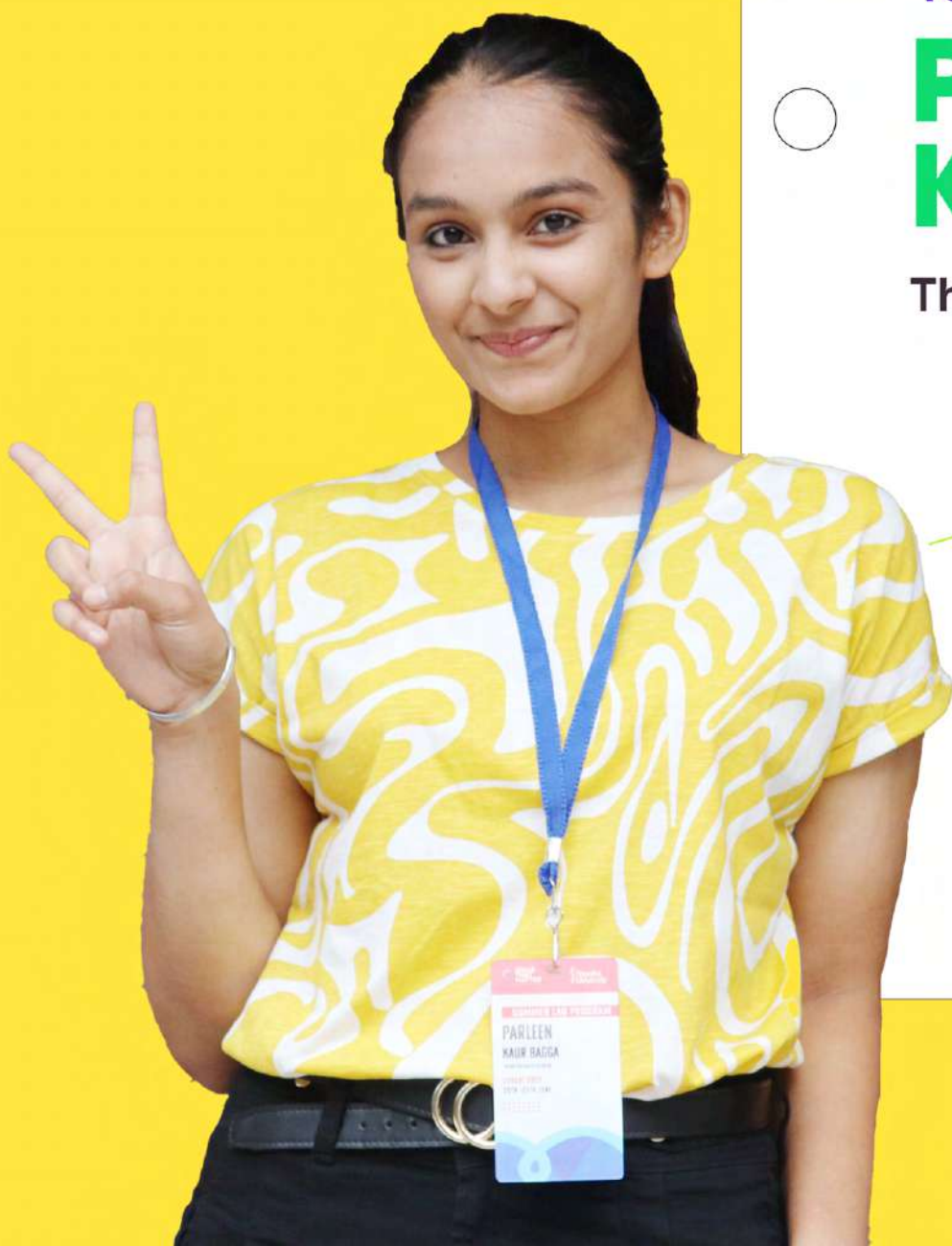


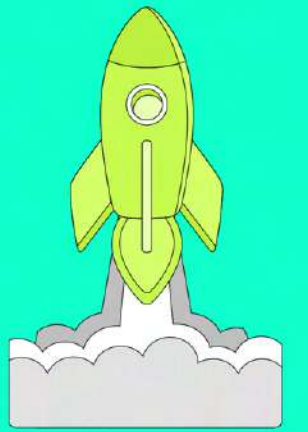
**PARLEEN
KAUR BAGGA**

The Emerald Heights International School, Indore

Now Computer Science
Freshman at

SDSU | San Diego State
University





Young Research Fellow 2023

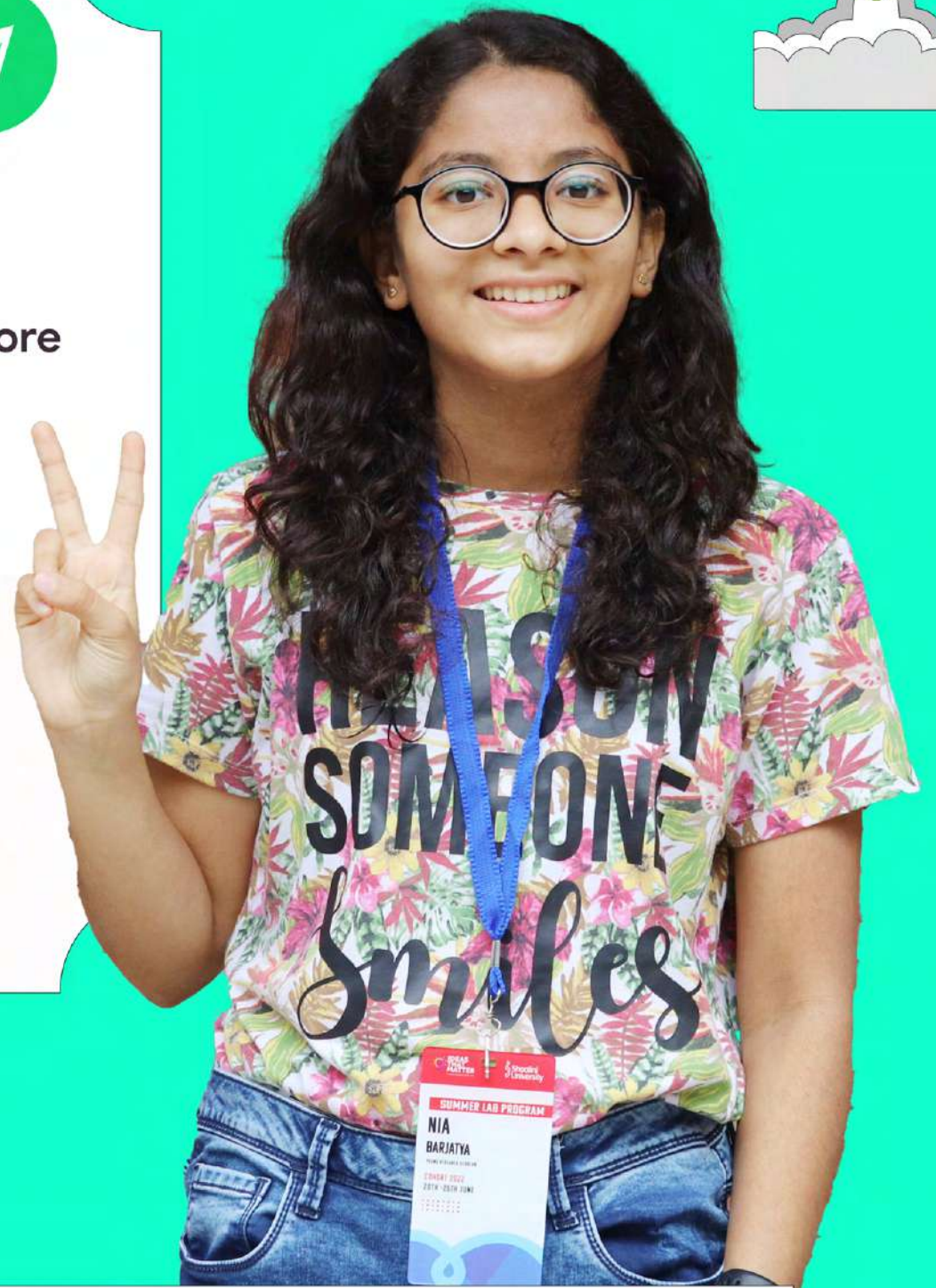


NIA BARJATYA

The Emerald Heights International School, Indore

Now a Finance major on a
Scholarship Worth 1.3 Cr. at

Ohio
Wesleyan
University



Young Research Fellow 2023



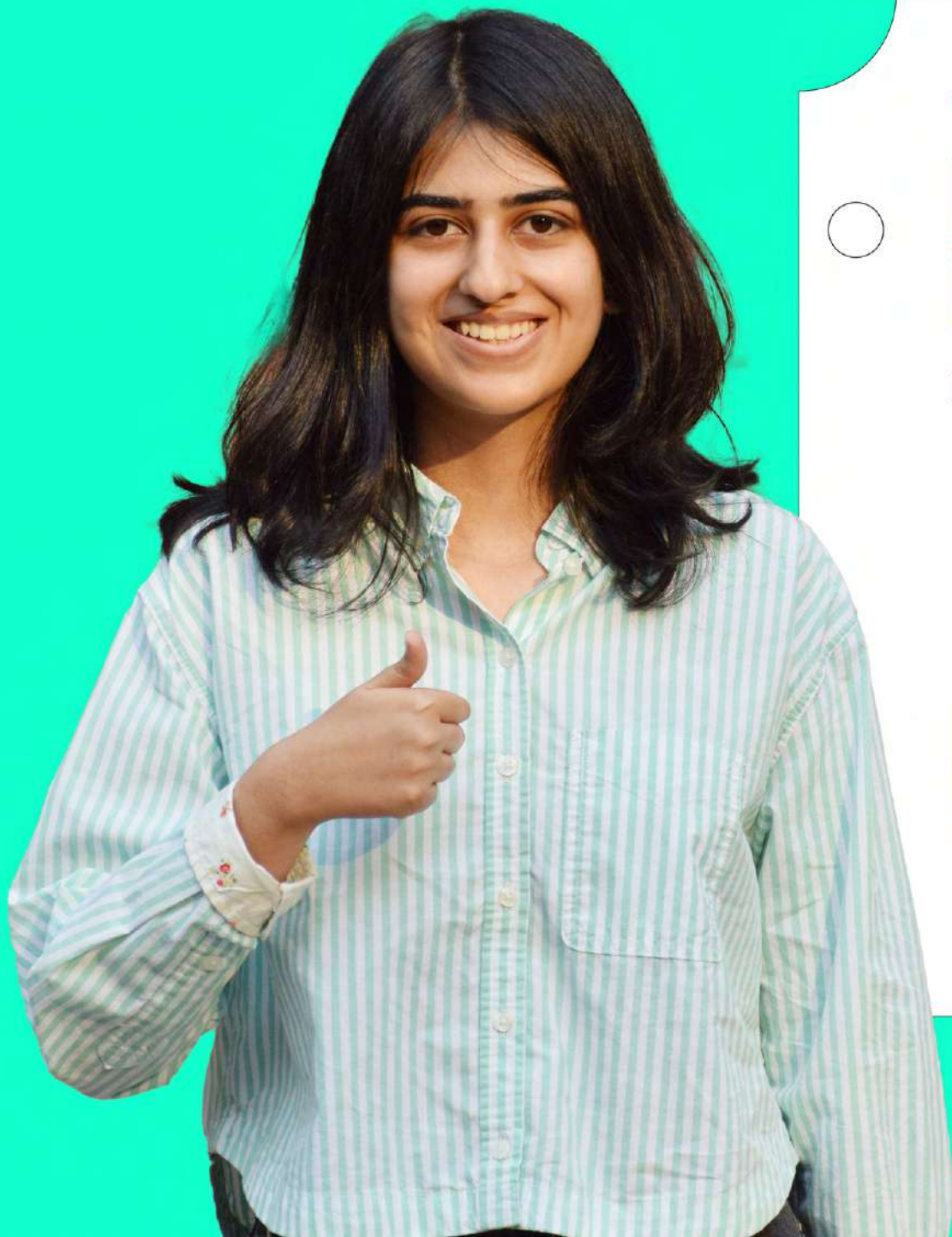
MEHRAMAT KAUR SIDHU

Mayo College Girls School

Now a CS Major at

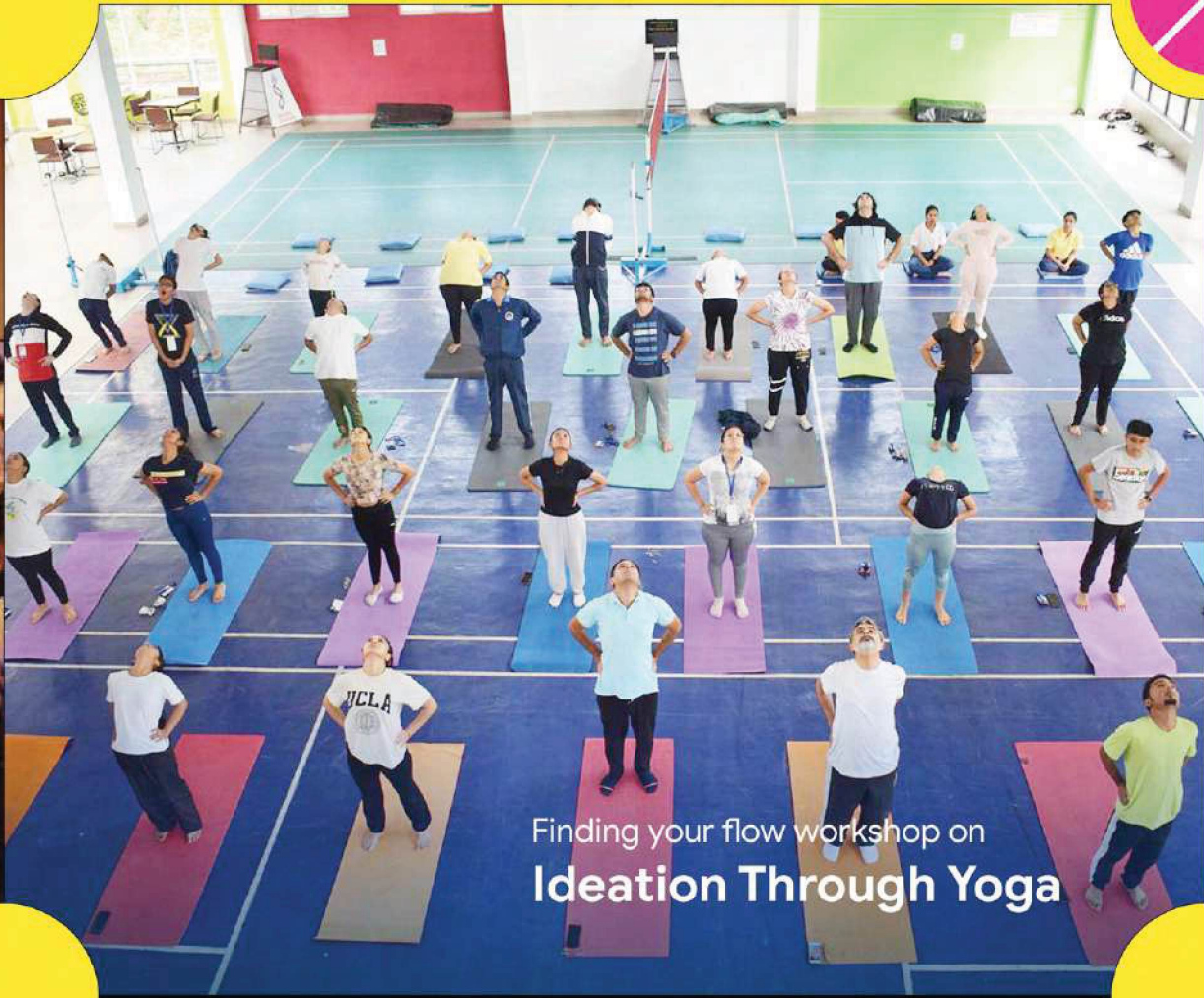


THE UNIVERSITY
OF BRITISH COLUMBIA





NSD Alum Ankur Bashar's Workshop on **Ideation Through Theatre**



Finding your flow workshop on **Ideation Through Yoga**



Learning session with one of the world's Top Natural Resource scientists **Dr. YS Negi**



Walkabout with the VC **Prof Atul Khosla**



Cultivating Creative Growth Through Planting **Nurturing Innovation**



Brainstorming ideas and execution **Classroom Collab**



Summer Lab Program 2025

Applications are now open!

Shikha Sood
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9814 931 628

Vinmre Kaushal
Vinmre@shooliniuniversity.com
6239 614 060



Shoolini University
Kasauli Hills, Solan, HP
(90 mins from Chandigarh)