UPES
UNIVERSITY OF TOMORROW

upes.ac.in

# SCHOOL OF HEALTH SCIENCES AND TECHNOLOGY

## Research and Technology-driven Healthcare Education

**ADMISSIONS OPEN**


SCHOOL OF HEALTH SCIENCES AND TECHNOLOGY

# INDEX

# RESEARCH AND TECHNOLOGY-DRIVEN HEALTHCARE EDUCATION

The field of health sciences has been swept by demographic, regulatory, and technological changes. This, coupled with evolving consumer expectations and a focus on well-being, has given rise to value-based care and innovative healthcare models using advanced digital technologies to prepare for uncertainties and build a smart health ecosystem.
All these changes open doors to several opportunities for the sector, with an overall increase in healthcare demand and, consequently, healthcare professionals.

UPES School of Health Sciences and Technology (SoHST) equips students with industry-relevant knowledge while keeping up with the rapid evolution of technology in the health and well-being industry and changing lifestyle patterns of the old and new generations. SoHST caters to the emerging sectors in Biotechnology, Genomics and Health Informatics, keeping in mind the rapid changes happening in the healthcare industry. The curriculum at SoHST is designed based on input from industry and academic experts. The focus is on project-based learning, thus developing critical thinking and problem-solving skills among students. Students are encouraged to participate in research projects, file patents, publish research papers, present at international conferences, and write opinion articles with the faculty mentors. Industry experts interact with students and share their knowledge, ideas, and professional journeys. This leads to a holistic education that is research- and technology-driven.

**Dr. Padmavathy Venkat Subramanian**
**Dean, School of Health Sciences and Technology**

Meet the Expert

# UPES ADVANTAGE


*University Category

# UNIVERSITY OF TOMORROW

UPES – the University of Tomorrow – stands as a beacon of transformative education, cultivating a dynamic learning environment that goes beyond conventional boundaries. At UPES, the commitment to academic excellence is seamlessly woven with a robust emphasis on digital preparedness, propelling students into the future with cutting-edge skills.

Runway, the business incubator at UPES, has been encouraging student-led start-ups, fostering a culture of entrepreneurship and innovation on campus.

The university's global exposure initiatives ensure that students are not just educated but are globally aware, prepared to navigate diverse landscapes. UPES has forged partnerships with prestigious institutions worldwide, including the University of California, Berkeley, UNSW Sydney, The University of Queensland, Australia, University of Gothenburg, University of Bologna, and University of Aberdeen, besides several others.

UPES envisions, designs, and delivers education that is not just relevant for today, but anticipates the challenges and opportunities of the future, moulding students into leaders who will make a positive impact on the world.

# PROGRAMS OFFERED

## Undergraduate Programs

| CORE | SPECIALISATIONS* (Choice based in 2nd Year) |
|---|---|
| **B.Pharm**<br>Approved by the Pharmacy Council of India (PCI), Govt. of India | |
| **B.Sc. Food, Nutrition, and Dietetics \| B.Sc. (Hons.) Food, Nutrition and Dietetics (3+1 Years)** | Dietetics and Holistic Wellness |
| | Nutraceutical and Nutritional Policy |
| **B.Sc. Microbiology \| B.Sc. (Hons.) Microbiology (3+1 Years)** | Food and Environmental Microbiology |
| | Medical and Pharmaceutical Microbiology |
| **B.Sc. Clinical Research \| B.Sc. (Hons.) Clinical Research (3+1 Years)** | Clinical Pharmacokinetics |
| | Regulatory Affairs |
| **B.Tech Biomedical Engineering** | Medical Devices |
| | Biomaterials |
| | Prosthetics |
| | Medical Diagnostics |
| **B.Tech Food Technology** | Food Biotechnology |
| | Food Plant Engineering |
| **B.Tech Biotechnology** | Pharmaceutical Biotechnology |
| | Genomics and Biosimilars |
| | Plant Biotechnology |
| | Bioinformatics |

## Postgraduate Programs

| CORE | SPECIALISATIONS* (Choice based in 1st Year) |
|---|---|
| **M.Sc. Microbiology** | Food and Environmental Microbiology |
| | Medical and Pharmaceutical Microbiology |
| **M.Sc. Nutrition and Dietetics** | Dietetics and Holistic Wellness |
| | Nutraceutical and Nutritional Policy |

## Ph.D. Programs#

| |
|---|
| **Ph.D. Biotechnology** |
| **Ph.D. Microbiology** |
| **Ph.D. Pharmaceutical Sciences** |
| **Ph.D. Biomedical Engineering** |
| **Ph.D. Food Nutrition and Sciences** |

## B.Pharm. Eligibility Criteria

Minimum 50% Marks at X & XII with Physics, Chemistry, Biology/ Math's, and English as a Major Subject in XII

## Selection Criteria

UPESPAT / JEE- Mains / Board Merit / NEET CUET (for B.Pharma)

***The program offerings are subject to approval of the UPES Academic Council and the University reserves the right to add, drop and modify programs at its discretion at any point of time without prior notice.**
**#For more details, visit research.upes.ac.in, email at phd@upes.ac.in or call 9997101439**

# SCHOLARSHIPS*

**Merit Scholarships**
Up to 30% based on (12th Board Marks/ JEE Score/ CUET Score)

**30% Fee Concession**
to Bonafide Residents of Uttarakhand

**Sports Scholarships**
Providing scholarships for talented sportspersons

**Freeships**
for underprivileged students

*pls refer upes.ac.in for more information

# GLOBAL OPPORTUNITIES

Student Exchange and Research

ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA | UCSI University | TAYLOR'S COLLEGE | TAIPEI MEDICAL UNIVERSITY COLLEGE OF MEDICINE | UNAIR

Masters Progression

NTU Nottingham Trent University

Accelerated Masters
(Masters Progression with credit mapping of last UG UPES semester/year)

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

# STUDENT OUTCOME

**100%# PLACEMENT**

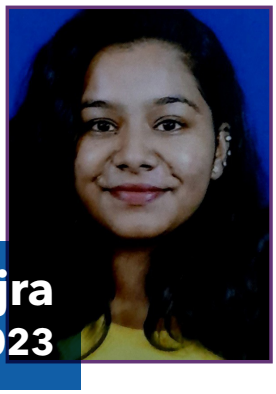
## RECRUITERS

iThrive healing & beyond | Tirupati | Unimrkt RESEARCH | BIS Research Emerging Technology Market Intelligence | Healthians Kyunki baat Accuracy ki hai | Baunthiyal Path Labs & Imaging Centre | ZenOnco.io Integrative Oncology | LifeCell

and more...

#Placement statistics (2022-2023) refer to the no. of students who have opted for and are eligible for placements.

# STORIES OF **EXCELLENCE**

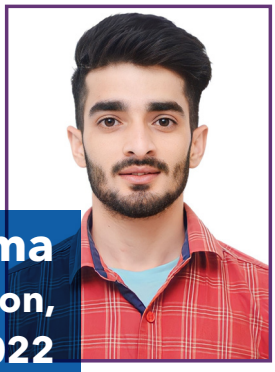


**Kasturi Hajra**
**B.Sc - Clinical Research, 2023**

Got accepted into Nottingham Trent University under a semester exchange program.

**Ananya Bishnoi**
**Ph.D. Scholar – Microbiology, 2022**

Received a prestigious DST-INSPIRE fellowship for her Ph.D. program.



**Piyush Verma**
**Ph.D. Scholar - Food, Nutrition, and Dietetics, 2022**

Received a prestigious DST-INSPIRE fellowship for his Ph.D. program.

## Snigdha Paul

**Ph.D. Scholar – Food, Science, and Nutrition, 2023**

Won first prize in the 'INTERNATIONAL YOUNG RESEARCHERS' CONCLAVE' organised by R&D, CIDRI (Centre for Inter-disciplinary Research and Innovation).

## Rashi Agarwal

**B.Sc - Food, Nutrition, and Dietetics, 2023**

Secured first position for oral presentation entitled "Formulation and Characterisation of Carrot and Simbal Doda Fermented Beverage" at the ADT Conference.

## Vijay Laxmi Saini

**B.Sc - Food, Nutrition, and Dietetics, 2022**

Won a gold medal in the Judo Championship of the International All Sports Games Federation held in Guwahati.

# INDUSTRY IN THE CLASSROOM

The educational framework seamlessly integrates practical knowledge, bridging the gap between academia and real-world practices and providing students with insights and skills relevant to their future careers.

**Industry Alliances:**

GE Healthcare

WOCKHARDT

MERCK

ALL INDIA INSTITUTE OF MEDICAL SCIENCES RISHIKESH

SYNERGY SUPERSPECIALITY HOSPITAL
Together We Care

and more...

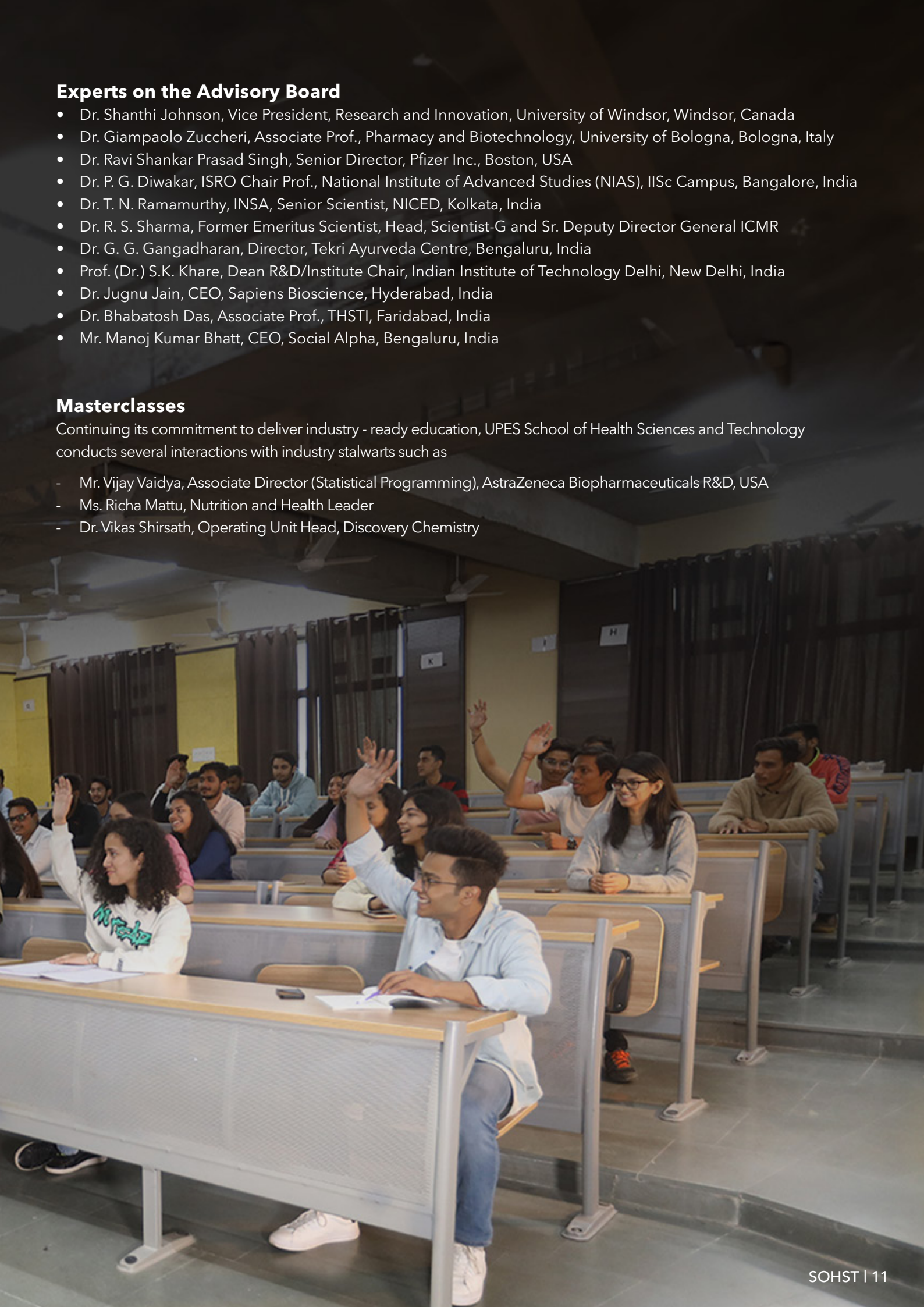
## Experts on the Advisory Board

- Dr. Shanthi Johnson, Vice President, Research and Innovation, University of Windsor, Windsor, Canada
- Dr. Giampaolo Zuccheri, Associate Prof., Pharmacy and Biotechnology, University of Bologna, Bologna, Italy
- Dr. Ravi Shankar Prasad Singh, Senior Director, Pfizer Inc., Boston, USA
- Dr. P. G. Diwakar, ISRO Chair Prof., National Institute of Advanced Studies (NIAS), IISc Campus, Bangalore, India
- Dr. T. N. Ramamurthy, INSA, Senior Scientist, NICED, Kolkata, India
- Dr. R. S. Sharma, Former Emeritus Scientist, Head, Scientist-G and Sr. Deputy Director General ICMR
- Dr. G. G. Gangadharan, Director, Tekri Ayurveda Centre, Bengaluru, India
- Prof. (Dr.) S.K. Khare, Dean R&D/Institute Chair, Indian Institute of Technology Delhi, New Delhi, India
- Dr. Jugnu Jain, CEO, Sapiens Bioscience, Hyderabad, India
- Dr. Bhabatosh Das, Associate Prof., THSTI, Faridabad, India
- Mr. Manoj Kumar Bhatt, CEO, Social Alpha, Bengaluru, India

## Masterclasses

Continuing its commitment to deliver industry - ready education, UPES School of Health Sciences and Technology conducts several interactions with industry stalwarts such as

- Mr. Vijay Vaidya, Associate Director (Statistical Programming), AstraZeneca Biopharmaceuticals R&D, USA
- Ms. Richa Mattu, Nutrition and Health Leader
- Dr. Vikas Shirsath, Operating Unit Head, Discovery Chemistry



# 41

UPES FACULTY MEMBERS ARE ON THE STANFORD LIST OF THE TOP 2% RESEARCHERS IN THE WORLD, AND 5 OF THESE RESEARCHERS HAVE FOUND A PLACE ON ONE OF THE MOST COVETED 'HIGHLY CITED RESEARCHERS' LIST PUBLISHED BY CLARIVATE.

# ACADEMIC EMINENCE

## FACULTY WITH WORLD-CLASS ACADEMIC EXCELLENCE

UNIVERSITY OF CAMBRIDGE

KU MEDICAL CENTER
The University of Kansas

JOHNS HOPKINS UNIVERSITY

THE UNIVERSITY of MISSISSIPPI

이화여자대학교
EWHA WOMANS UNIVERSITY

HARVARD UNIVERSITY

and more...

## FACULTY WITH PRESTIGIOUS SCHOLARSHIPS

MHRD

FIAS Frankfurt Institute for Advanced Studies

NIH

K-INBRE

DAAD

and more...

# EMINENT **FACULTY**

### Dr. Padmavathy Venkat Subramanian

Professor and Dean

Ph.D. from the University of Cambridge, UK, and a Masters in Management (Health) from McGill University, Canada. With over 31 years of research expertise in microbiology, biochemistry, phytochemistry, ayurveda, and public health, she has held leadership roles at the SRM Institute of Science and Technology, collaborating with renowned institutions like the University of Cambridge and organizations dedicated to health traditions and integrative medicine

### Dr. Dhruv Kumar

Professor

Cluster Head, Allied Health Sciences

Ph.D. holder in Cellular, Molecular, and Industrial Biology from the University of Bologna, Dr. Dhruv Kumar is a renowned researcher. He specialises in cancer research, focusing on Autophagy and Apoptosis mechanisms, with current work on the Autophagy-Metabolic axis for cancer therapy. He has made significant contributions to Drug Designing and Repurposing for COVID-19 and excels as an educator in Cancer Biology, Stem Cell Biology, Molecular Medicine, and Bioinformatics. His numerous publications and recognition as a top 2% SCOPUS-cited scientist in Cancer and Bioinformatics highlight his expertise.

### Dr. Kuldeep Roy

Professor and Cluster Head

Department of Pharmaceutical Sciences

With 15+ years of teaching and research experience, he holds a Ph.D. in Medicinal Chemistry and specialises in Pharmaceutical Research, Pharmacoinformatics, and New Drug Discovery. He has secured funding from government bodies, holds three international patents, and is associated with international journal review and editorial roles.

### Dr. Nidhi Chauhan

Senior Associate Professor

Department of Biochemistry

A distinguished nanobiotechnology researcher specialising in biosensors, is globally recognised for her contributions and collaborations with influential scientists, including a Nobel laureate. She is dedicated to advancing accessible and affordable healthcare through innovative medical technologies.

## Dr. Utkarsh Jain

Associate Professor

Department of Pharmaceutical Chemistry

Leading expert in Nanotechnology, Biosensors, Drug delivery, and Host-pathogen interactions. His research addresses issues such as neonatal sepsis, gastric cancer, and diabetes. With over 74 articles, 13 book chapters, and 2 books published, he guides and mentors Ph.D. students and has extensive experience in academia and industry. His teaching philosophy emphasises on creating a conducive learning environment through pre-reading assignments and interactive classroom activities.

## Dr. Ramendra Pati Pandey

Associate Professor

Microbiology and Immunology

Affiliated with Sigma Xi, he contributes as an Associate Researcher at Sao Paulo State University through a FAPESP-funded project. He recently received the esteemed Best Mid-Career Immunology Teacher Award 2023 from the Indian Immunology Society at IMMUNOCON-2023 hosted by AIIMS Delhi. He also serves as an Ambassador for the Royal Society of Biology in the UK.

## Dr. Rajendra Awasthi

Associate Professor

Department of Pharmacology

With 17+ years of experience with a Ph.D. in Pharmaceutical Sciences, his extensive research includes micro- to nanoparticulate drug delivery systems. With over 160 publications, patents, he is also recognised as the top 2% of global scientists by Stanford University.

## Dr. Anand Gaurav

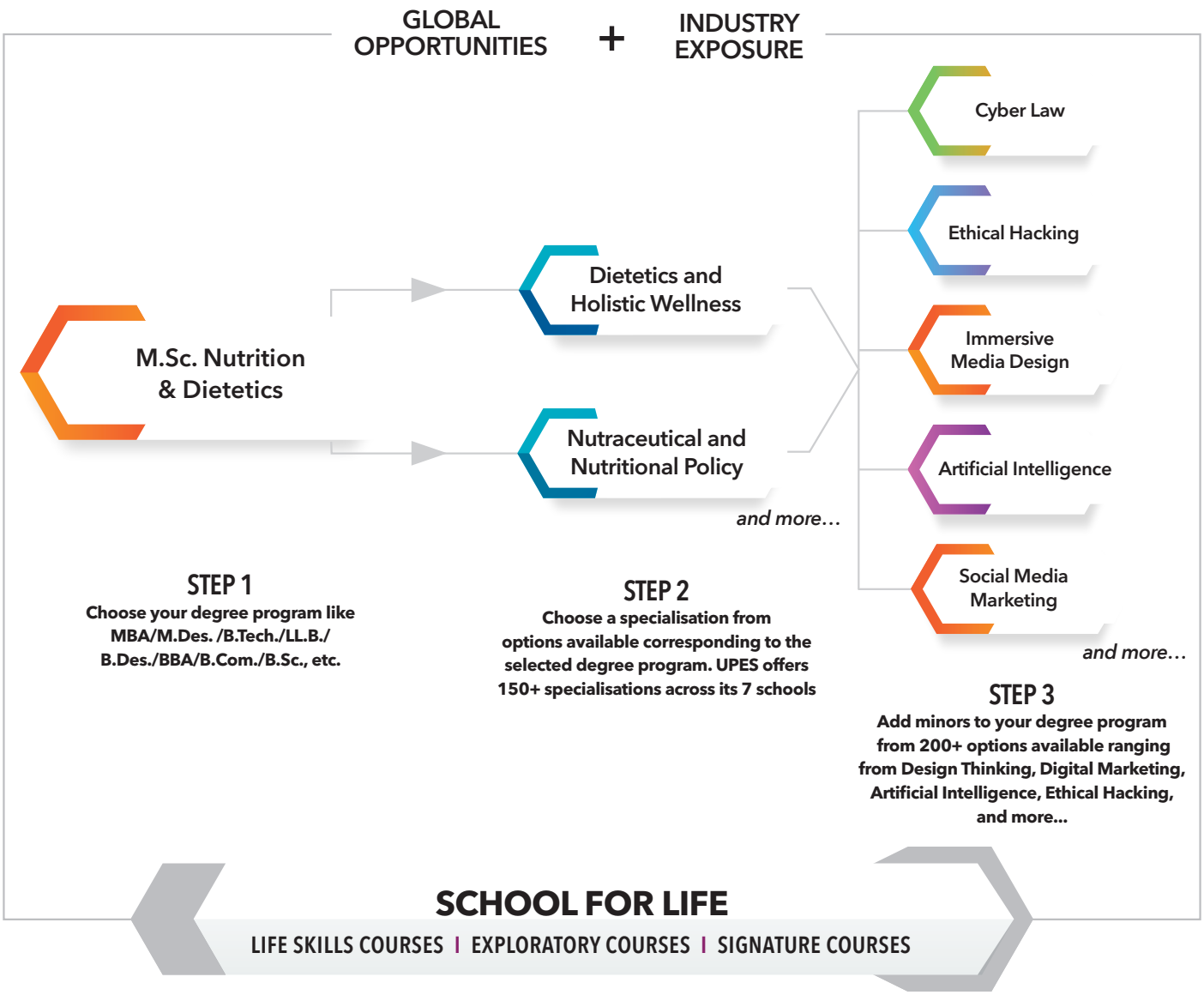
Professor

Department of Pharmaceutical Chemistry

With degrees from multiple universities, he is an expert in computer-aided drug design and small molecule synthesis. His research concentrates on anti-inflammatory and anti-schizophrenia drug development, securing research grants exceeding 3,00,000 Malaysian Ringgits, including support from the Ministry of Higher Education, Malaysia.

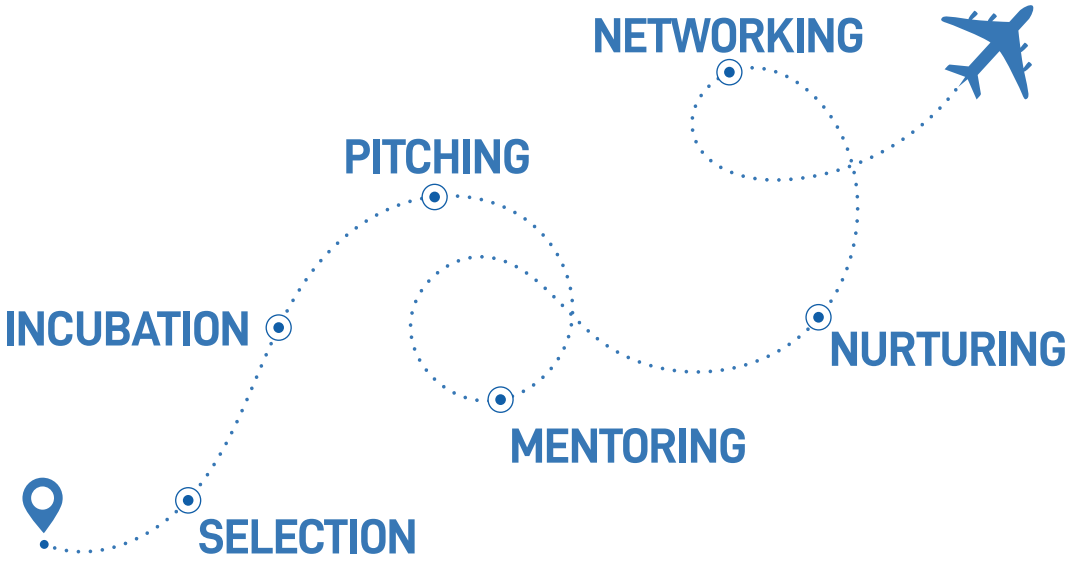
# DESIGN YOUR OWN DEGREE

The UPES curriculum framework is holistic in its overall structure, yet focuses on the individual needs of students to discover, experience, explore, and challenge. Along with the core subject, students can choose from subject-focused specialisations. They are also allowed to choose minor/exploratory subjects from other schools at UPES, which include: School of Advanced Engineering, School of Computer Science, School of Law, School of Business, School of Health Sciences and Technology, School of Design, and School of Liberal Studies. The curriculum also offers Signature and Life-Skills courses through the School for Life. To round off this learning experience, students are required to undertake mandatory internships in the social sector, government/public sector, and industry. The combinations available for students to pick and choose from are endless, ensuring both depth and breadth of knowledge.



runway incubator

START YOUR START-UP JOURNEY




We help start-ups convert their ideas into real and viable businesses. Our goal is to assist brilliant innovators in navigating the early stages of setting up a start-up and reaching the point where they have developed a product/service impressive enough to raise money. This will be achieved through a mix of mentorship, grants and investments, legal and incorporation support, and allocation of workspace.

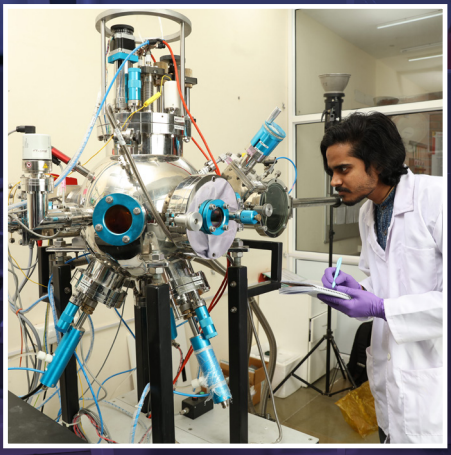
**75+**
**START-UPS**
RECEIVED GRANTS FROM THE UNIVERSITY

**250**
**START-UPS**
PRE-INCUBATED

# INFRASTRUCTURE THAT GIVES AN EDGE

Our labs prepare students with all the modern techniques that are required to put them ahead in their respective field as soon as they step out from the university. These labs bring more practical approach to teaching. School of Health Sciences and Technology has state-of-the-art labs which are made as per PCI requirements.

- Pharmaceutical Chemistry Lab
- Medicinal Chemistry Lab
- Natural Products Chemistry Lab
- Biopharmaceutics and Pharmacokinetics Lab
- Food and Nutrition Lab
- Food Technology Lab
- Central Instrumentation Lab
- Cell Culture Lab
- Aseptic Room
- Microbiology and Immunology Lab
- Biotechnology Laband more …



# ABOUT **UPES**

Established through the UPES Act, 2003, of the State Legislature of Uttarakhand, UPES is a top-ranked, UGC-recognised, private university. As per the National Institutional Ranking Framework (NIRF) 2023, the Ministry of Education, Government of India, UPES has been ranked 52, with a rank of 54 in Engineering and a rank of 39 in Management. In addition to this, the university has been ranked the No. 1 private university in academic reputation in India by the QS World University Rankings 2024 and is among the top 3% of universities in the world. As per the QS World University Rankings 2024: Asia, UPES has been ranked 218 in Asia and 23 in India among all the Indian institutions.

As per the Times Higher Education (THE) World Ranking 2024, UPES is in the overall rank band of 801–1000 in the world, 9th among private and deemed universities, 2nd among private universities, and 26th in the overall universities category in India. According to the prestigious Shanghai Ranking–Academic Ranking of World Universities (ARWU) for Global Ranking of Academic Subjects, UPES is among the world's top 150 institutions for telecommunication engineering, among the top 400 for Electrical and Electronic Engineering, and among the top 500 for Computer Science and Engineering.

UPES has also been accredited by NAAC with a grade of 'A' and has received 5 stars on employability (placements) by the globally acclaimed QS Rating. The university has had 90%+ placements over the last few years. 41 faculty members of UPES are among the world's top 2% of researchers, as per the Stanford University list.

UPES offers graduate and postgraduate programs through its seven schools: School of Advanced Engineering, School of Computer Science, School of Design, School of Law, School of Business, School of Health Sciences and Technology, and School of Liberal Studies, with 14,000+ students and 1,500+ faculty and staff members.

***NO.1 PRIVATE UNIVERSITY IN ACADEMIC REPUTATION**

QS WORLD UNIVERSITY RANKINGS

*QS World University Rankings 2024

**#RANKED 52ND IN INDIA**

nirf Ranking 2023

#University Category

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**9TH AMONGST PRIVATE AND DEEMED UNIVERSITIES***

THE World University Rankings 2024

**2ND AMONGST STATE PRIVATE UNIVERSITIES***

*in India

# HOLISTIC DEVELOPMENT

What is the purpose of education? Is it merely to make students employable, remove ignorance and impart knowledge? Or is it to create a better world? The seismic shifts taking place globally necessitate action to ensure a secure and equitable future for all. Learners today are, therefore, required to be creative, collaborative and communicative. They must develop skills to solve complex problems that plague humanity, work towards equity, uplift the underserved, live healthy, happy, and productive lives. UPES School for Life (SFL) was established with the intention to create true changemakers. Students learn to apply an in-depth understanding of attained life skills and broad-based subject competencies along with core subject qualifications, to take advantage of educational and employment opportunities. This broad-based learning experience helps them evolve throughout their professional and personal lives.

The undergraduate program at UPES offers four clearly demarcated, yet academically integrated areas, covering Core Specialisation courses, Exploratory (Interdisciplinary Electives), Signature and Life Skill courses, all of which are credited and form the basis of the degree awarded. School for Life offers the latter three selections of courses, which are structured to be read alongside the students' core academic curriculum.

## SIGNATURE COURSES

These courses include areas that are not specifically linked to a vocation and focus on 21st century learner skills and attributes to meet the requirements of the graduate profile. They empower students as global citizens of the future. These courses are undertaken by all UPES undergraduates and select graduate students from specific disciplines.

## EXPLORATORY COURSES
(Interdisciplinary Electives)

These courses encourage students to develop a broad-based approach to learning by selecting subjects of study from other schools at the university. This helps them grow their breadth and depth of knowledge beyond their chosen specialisation and exposes them to the wider scope of university education.

## LIFE SKILL COURSES

These courses allow students to upskill into university learning styles and pick up additional skills with a focus on enhanced employability and communication, along with management and professional skills, including critical thinking, problem-solving, and creativity.

## 'SRIJAN' SOCIAL INTERNSHIPS

Srijan Social Internships are full-time, 8-week-long internships with social sector organisations. These internships are offered as part of School for Life at UPES and are for all first-year students. Through these internships, students will be exposed to a variety of social sector challenges that our society is facing and find ways to overcome them. In the process, they will build empathy and learn valuable leadership skills that will be useful in both work and life.


PARIS

# CAMPUS LIFE

- Life at UPES is truly an enriching experience, where students can create memories that will last a lifetime. It is about young learners discovering themselves through engaging activities that broaden their understanding of the world.
- There are more than twenty student chapters, including the Society of Petroleum Engineers, Cloud Security Alliance, the Society of Law and Literature, the Institute of Electrical and Electronics Engineers, the Moot Court Association, etc., as well as several clubs such as the National Service Scheme, Ras Rang Raag, Avishkarnam, Sphurit, etc. that cater to different interests and fields of study.
- Events such as Spandan, the annual youth festival; and 'Wow Wednesday', a mid-week activity for showcasing talent, bring together students from across all the schools on one stage.
- Sports events and activities at UPES offer students a wide range of opportunities for personal growth and skill development. Students develop important values such as discipline, team spirit, patience, and resilience.
- From learning to leisure and path-breaking innovations to life-long friendships, life at UPES is a vibrant blend of everything a learner aspires for. It is a place where artists, explorers, athletes, and innovators come together to pursue their passions and explore new horizons.

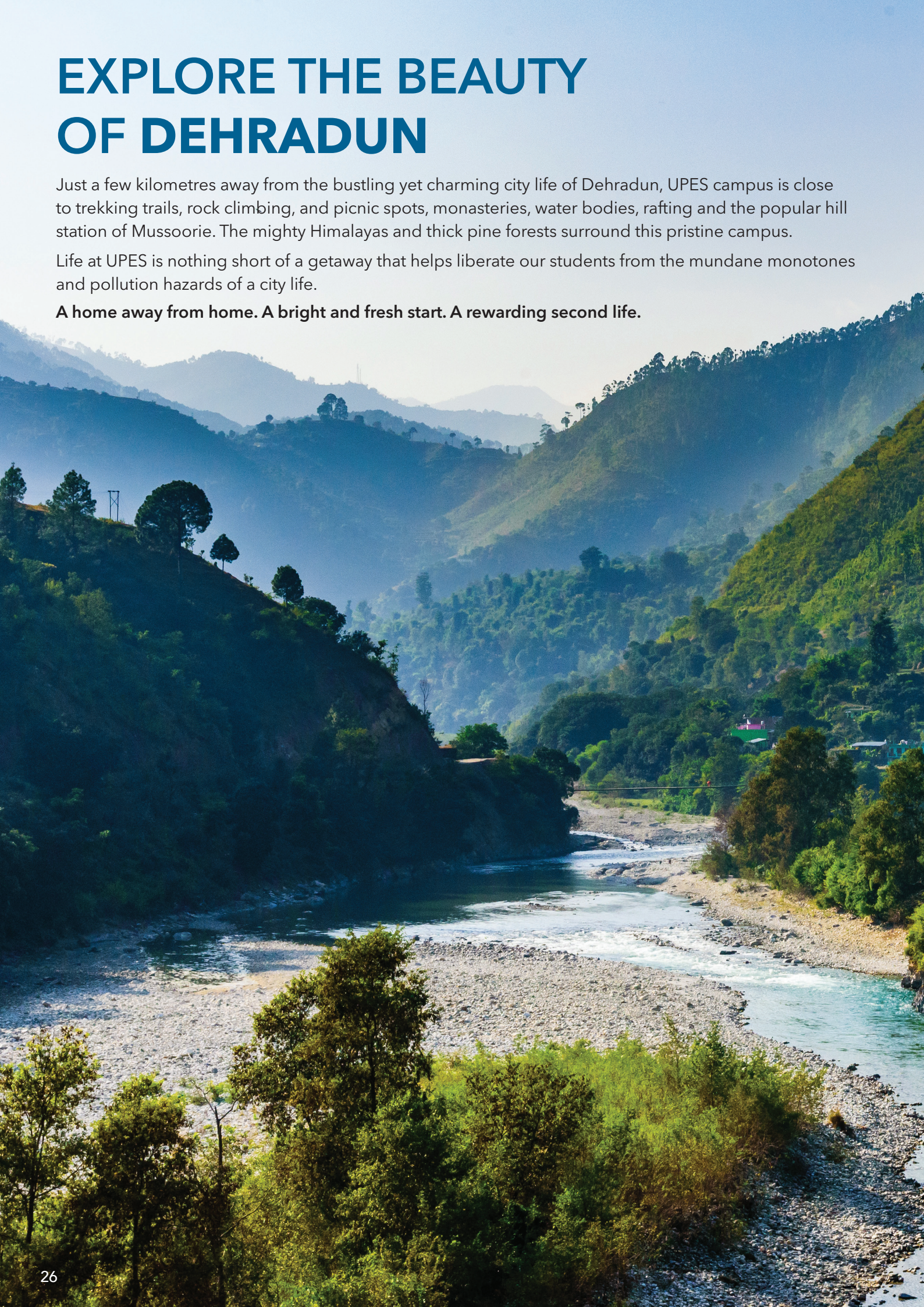
Scan to explore
Life @ UPES

# EXPLORE THE BEAUTY OF **DEHRADUN**

Just a few kilometres away from the bustling yet charming city life of Dehradun, UPES campus is close to trekking trails, rock climbing, and picnic spots, monasteries, water bodies, rafting and the popular hill station of Mussoorie. The mighty Himalayas and thick pine forests surround this pristine campus.

Life at UPES is nothing short of a getaway that helps liberate our students from the mundane monotones and pollution hazards of a city life.

**A home away from home. A bright and fresh start. A rewarding second life.**



UPES
UNIVERSITY OF TOMORROW

SCAN TO FOLLOW US ON

**1800 102 8737 (10 am to 7 pm)**
**enrollments@upes.ac.in | www.upes.ac.in**

INTERNATIONAL STUDENTS WRITE TO US AT: international.admissions@upes.ac.in

KANDOLI VIA-PREM NAGAR, DEHRADUN (UTTARAKHAND), INDIA

**ADVANCED ENGINEERING | COMPUTER SCIENCE | DESIGN | BUSINESS | LAW | HEALTH SCIENCES AND TECHNOLOGY | LIBERAL STUDIES**