GEU 25

GRAPHIC ERA deemed to be UNIVERSITY formerly GEIT

Graphic Era
Deemed to be
University
DEHRADUN

GRAPHIC ERA DEEMED TO BE UNIVERSITY

DEPARTMENT OF MICROBIOLOGY

COURSES OFFERED:

B.Sc. (Hons.) Microbiology

M.Sc. Microbiology

Ph.D. Microbiology

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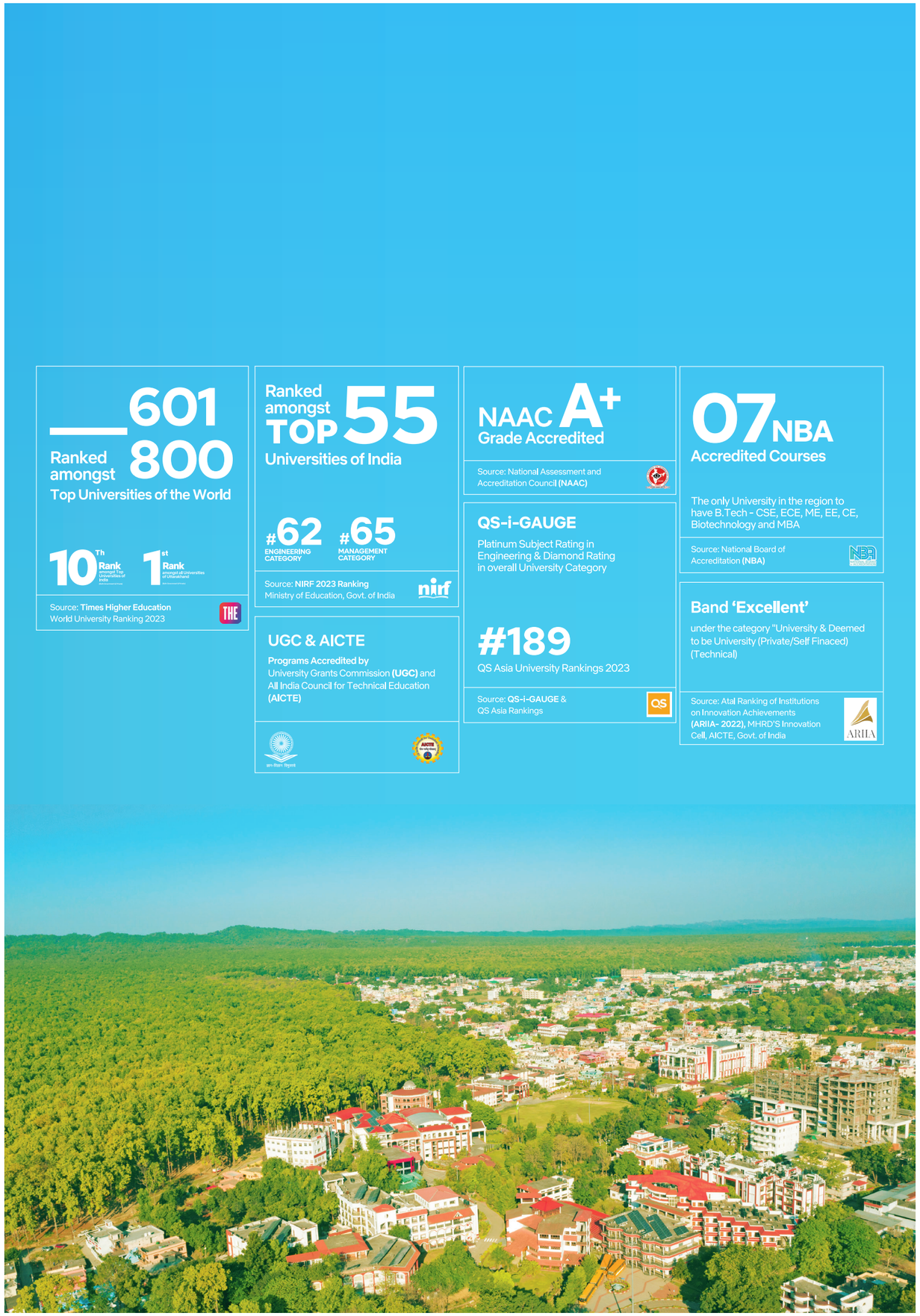


About the University

Graphic Era Deemed to be University is the culmination of the hard work of its visionary founder, Prof. (Dr.) Kamal Ghanshala, who had the dream to change the destiny of thousands of youths through quality and holistic education. In 1993, he embarked on the mission to transform the higher education landscape of the Doon Valley with Twenty-nine thousand rupees in his pocket and loads of determination in his heart.

His vision gained concrete shape in 1996 the form of the Graphic Era Institute of Technology (GEIT). In 2008, it was accorded the status of Deemed University under Section 3 of the UGCAct, 1956 vide Notification F.9-48/2007-U.3 (A) dated 14 August 2008 and approved by the Ministry of Human Resource Development, Government of India.

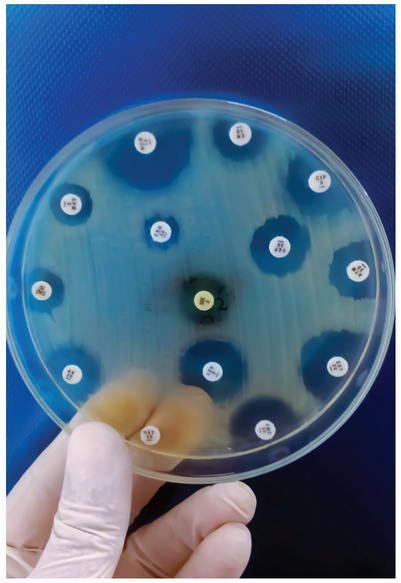
Today, Graphic Era Deemed to be University stands tall as NAAC 'A+' accredited university with 7 NBA accredited programs and is ranked among the Top 55 universities of India in MHRD's National Institutional Ranking Framework (NIRF) with All India Rank 62 in the Engineering Category, All India Rank 65 in Management Category, and All India Rank 55 in the University Category.

The premier university regards industry-academia partnership as an integral part of teaching methodology & curriculum and has taken big initiative in engineering programs by getting into partnerships with Tata Technologies and IBM. Moreover, it hosts Technology Business Incubator that funds, mentors and nurtures ideas, start-ups and technology-based entrepreneurship.

Graphic Era Deemed to be University has acquired transnational dimensions through student exchange and knowledge-sharing programs with many foreign universities and has been acclaimed and honoured at international forums for its brilliance in upholding the highest standards of education. The alumni of Graphic Era are making their mark Worldwide in marquee brands like Apple, Google, Microsoft, HSBC, to name a few and in the service of the nation in all wings of the Armed forces.

Programs Offered:

The department offers a comprehensive range of programs including **B.Sc. (Hons.) Microbiology, M.Sc. Microbiology, and Ph.D. Microbiology,** providing a pathway for students to develop expertise and pursue advanced research.



B.Sc. (Hons.) Microbiology

The B.Sc. (Hons.) Microbiology program offers a comprehensive understanding of the fascinating world of micro-organisms. Students delve into the study of bacteria, viruses, fungi, and other micro-organisms and explore their roles in various fields such as medicine, agriculture, industry, and environmental science. Through a combination of theoretical knowledge and practical training, students develop skills in microbial identification, laboratory techniques, and data analysis.

The candidates can be assured of the most updated and rigorous curriculum waiting for them at the commencement of the program, delivered to them by top experts in the most advanced teaching learning environments, competing with the Top Universities globally.

Career Opportunities: Graduates of the B.Sc. (Hons.) Microbiology program have diverse career opportunities in fields such as healthcare, pharmaceuticals, food and beverage industry, research institutions, environmental agencies, and quality control labs.

Eligibility: Class 10+2 with Biology

M.Sc. Microbiology

The M.Sc. Microbiology program offers advanced knowledge and research opportunities in the field of microbiology. Students deepen their understanding of microbial genetics, immunology, microbial ecology, and biotechnology.

They gain hands-on experience in cutting-edge laboratory techniques and develop critical thinking and analytical skills necessary for scientific research.

Career Opportunities: Graduates of the M.Sc. Microbiology program have diverse career opportunities in research institutions, pharmaceutical companies, healthcare organizations, environmental agencies, and academia.

Eligibility: Graduate in Biology, desirable Microbiology as subject

Ph.D. Microbiology

The Ph.D. Microbiology program is a research-intensive program that provides students with an opportunity to contribute to the advancement of knowledge in the field of microbiology. Students work closely with experienced faculty mentors to conduct original research in areas such as microbial genetics, pathogenesis, environmental microbiology, industrial microbiology, and more.

The program fosters critical thinking, independent research skills, and the ability to solve complex problems in microbiology

Career Opportunities: Ph.D. Microbiology graduates have diverse career opportunities in academia, research institutions, government agencies, pharmaceutical companies, and biotechnology firms.

Eligibility: B.Sc, M.Sc. in Microbiology or related subject

Statistics:

The global clinical microbiology market size is projected to reach **USD 5.3 billion by 2025, at a CAGR of 6.5% during the forecast period. (Grand View Research)**

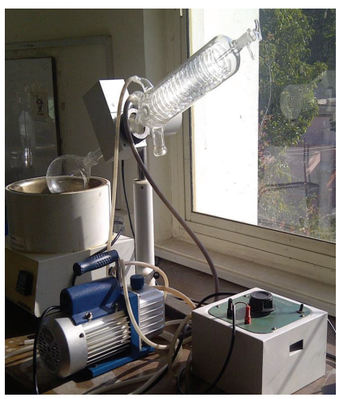
Employment of microbiologists is projected to grow 9 percent from 2021 to 2031, faster than the average for all occupations.

About the Department Microbiology

Welcome to the Department of Microbiology at Graphic Era Deemed to be University, a dynamic space where ground breaking research merges with global expertise. Our department thrives as a vibrant center of knowledge, innovation, and limitless prospects, propelling the microbiology field into the future.

Supported by esteemed faculty members and state-of-the-art facilities, we are dedicated to fostering exceptional talent and delivering a transformative learning journey.

Here, students acquire not only the essential skills and knowledge but also the research acumen needed to surpass expectations in their professional endeavours. With a commitment to excellence, we empower our students to become leaders and pioneers in the ever-evolving realm of microbiology.



Specialized Labs & Classrooms

The department offers specialized labs in Biosafety and Molecular Diagnostics, Microbiology, Animal Cell Culture, Recombinant DNA Technology, Immunology, Biochemistry, Molecular Biology, and Bioinformatics. These labs provide students with hands-on experience in various biological and biomedical sciences. Equipped with state-of-the-art facilities and equipment, the labs enable students to conduct advanced research and experiments.

In the Biosafety and Molecular Diagnostics lab, students learn about disease detection and diagnosis using molecular techniques. They gain practical skills in handling biological samples, performing DNA and RNA analysis, and interpreting test results. The Microbiology lab allows students to explore the world of micro-organisms. They learn about microbial identification, cultivation, and characterization techniques, as well as areas such as antimicrobial resistance and industrial microbiology.

In the Animal Cell Culture lab, students gain insights into cell behaviour, growth factors, cell signalling, and tissue engineering through the cultivation and manipulation of animal cells. The Recombinant DNA Technology lab provides practical training in genetic engineering techniques, allowing students to manipulate DNA molecules, clone genes, and create recombinant DNA constructs.

The Immunology lab focuses on the study of the immune system and its response to diseases. Students learn immunological techniques and gain knowledge about immune cell types, antibody production, and immune response mechanisms. In the Biochemistry lab, students acquire a strong foundation in understanding chemical processes and molecular interactions within living organisms, including protein purification, enzyme assays, and biochemical analysis.

The Molecular Biology lab focuses on the study of genes, their structure, function, and regulation. Students learn techniques such as PCR, DNA sequencing, gene cloning, and gene expression analysis. The Bioinformatics lab integrates computational methods with biological data analysis, teaching students how to utilize bioinformatics tools and databases for sequence alignment, genome analysis, and protein structure prediction.

Additionally, the department's Centralized Instrumentation Facility houses advanced scientific instruments such as microscopes, spectrophotometers, DNA sequencers, and mass spectrometers. Students have access to these cutting-edge instruments, enhancing their research capabilities and allowing them to conduct sophisticated experiments.

Overall, the specialized labs and the Centralized Instrumentation Facility provide students with unparalleled opportunities for hands-on learning and research, ensuring they are well-equipped to excel in the field of biological and biomedical sciences.

Conferences and Seminars:

The department fosters a culture of learning and collaboration by organizing a wide range of conferences, training, and seminars. Notable events include the International Conference on Recent Advances in Nutraceuticals and Functional Foods, the International Conference on Mountain Ecosystems: Biodiversity and Adaptations Under Climate Change Scenario, and the Hands-on Training on Real-Time PCR for COVID-19.

Training and Consultancies

Valuable opportunities are provided for students to gain practical experience through tie-ups with renowned institutions such as INSA, Delhi University, CSIR, and ICAR. Collaborations with NGOs and research labs enable training and support programs in areas like orchid cultivation, mushroom cultivation, and biotechnology entrepreneurship.

Science and Society Interactions:

The department actively engages with society through collaborations with NGOs, guest lectures by distinguished experts such as Padma Bhushan Prof. K.S. Valdiya and Dr. S. Farooq, and educational tours to renowned institutes and organizations like the Wildlife Institute of India and Forest Research Institute. These interactions promote the social relevance of science and broaden students' perspectives.

Microbios Club:

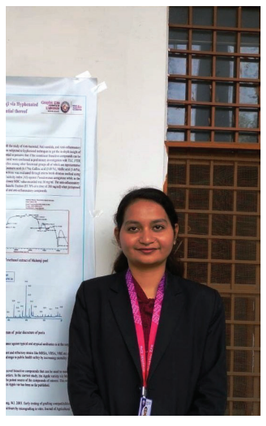
Initiated by students and faculty, the 'Microbios Club' provides a platform for transforming innovative ideas into entrepreneurship and business start-ups. The club organizes seminars, expert lectures, visits, and competitions, fostering an entrepreneurial spirit among students.

Alumni Cell:

The department maintains a strong connection with its alumni through regular offline and online guest sessions, facilitating valuable interactions between current students and accomplished alumni.

Innovation Center

The department's active Innovation Center, established by dedicated faculty, promotes research and innovation for human welfare, village development, and farmer empowerment. The center has successfully launched innovative products in the market, making a tangible impact.



Student Achievements:

Students have excelled in various national-level exams such as CSIR-NET, GATE, and CDS, opening doors to prestigious institutes and research organizations like INMAS DRDO, Patanjali Bio Research Institute, University of Massachusetts University of California, Qyunghee University, La Trobe University, Wildlife Institute of India, IIT, NIT, CSIR-CDRI, and more. Moreover, their talents have been recognized through accolades such as the NDST Inspire Fellowship, Young Scientist Award (UCOST Science Congress), etc.

Student-Centric Activities:

The department emphasizes practical learning through hands-on training, workshops, student trips, and activities organized by the Microbios Student Club. A research mentorship program and extension activities nurture the intellectual growth and personal development of students.

Expert Faculty:

The Department boasts a team of well-qualified faculty from leading universities across the globe including University of Calgary, Indian Institute of Technology, Jamia Hamdard University, Babasaheb Bhimrao Ambedkar Central University, and more. They have gained immense recognition and experience in teaching as well as research.

Foreign Experience Faculty

National Experience Faculty

Professor & Dean

Prof. Priti Krishna

RESEARCH AREA

Plant stress response, Phytohormones, Sustainable agriculture, Protected cropping

QUALIFICATION

Ph.D. University of Calgary, Canada

EXPERIENCE

34 Years of Experience

Professor

Prof. Ashish Thapliyal

RESEARCH AREA

Ions Channels & GPCR, Biodiversity Conservation, Mycobacterium, Mathematical Modelling, AMP-Machine learning & AI

QUALIFICATION

Ph.D. HNB Garhwal Central University, Srinagar

EXPERIENCE

28 years of Experience

Associate Professor & Head

Dr. Pankaj Gautam

RESEARCH AREA

Diagnostics and molecular Biology, Pathogenesis, Nutraceuticals

QUALIFICATION

Ph.D. Jamia Hamdard University, New Delhi

EXPERIENCE

21 years of Experience

Associate Professor

Dr. Divya Venugopal

RESEARCH AREA

Mycobacterium, Antibiotic resistance, DNA repair, Cancer biology

QUALIFICATION

Ph.D. University of Delhi

EXPERIENCE

26 years of Experience

Associate Professor

Dr. Promila Sharma

RESEARCH AREA

Biomolecules and Immunology

QUALIFICATION

Ph.D. Jamia Hamdard University, New Delhi

EXPERIENCE

22 years of Experience

Associate Professor

Dr. Manoj Pal

RESEARCH AREA

Biosensor , Microbial Fuel Cells

QUALIFICATION

Ph.D. Indian Institute of Technology, Roorke

EXPERIENCE

18 years of Experience

Associate Professor

Dr. Amit Gupta

RESEARCH AREA

Immunology, Pharmaceutical Microbiology

QUALIFICATION

Ph.D. Guru Nanak Dev University, Amritsar

EXPERIENCE

18 years of Experience

Associate Professor

Dr. Anju Rani

RESEARCH AREA

Environmental Microbiology, Soil and Agricultural Microbiology

QUALIFICATION

Ph.D. G.B Pant University of Agriculture & Technology, Pantnagar

EXPERIENCE

17 years of Experience

Assistant Professor

Dr. Gaurav Pant

RESEARCH AREA

Environmental Microbiology, Phycology

QUALIFICATION

Ph.D. GITAM University , Vishakhapatnam

EXPERIENCE

14 years of Experience

Assistant Professor

Dr. Amar Jyoti Das

RESEARCH AREA

Fermentation & Bioprocessing, Environmental Microbiology, Metabolomics

QUALIFICATION

Ph.D. Babasaheb Bhimrao Ambedkar Central University, Lucknow

EXPERIENCE

10 years of Experience

Assistant Professor

Dr.Shabaaz Begum J P

RESEARCH AREA

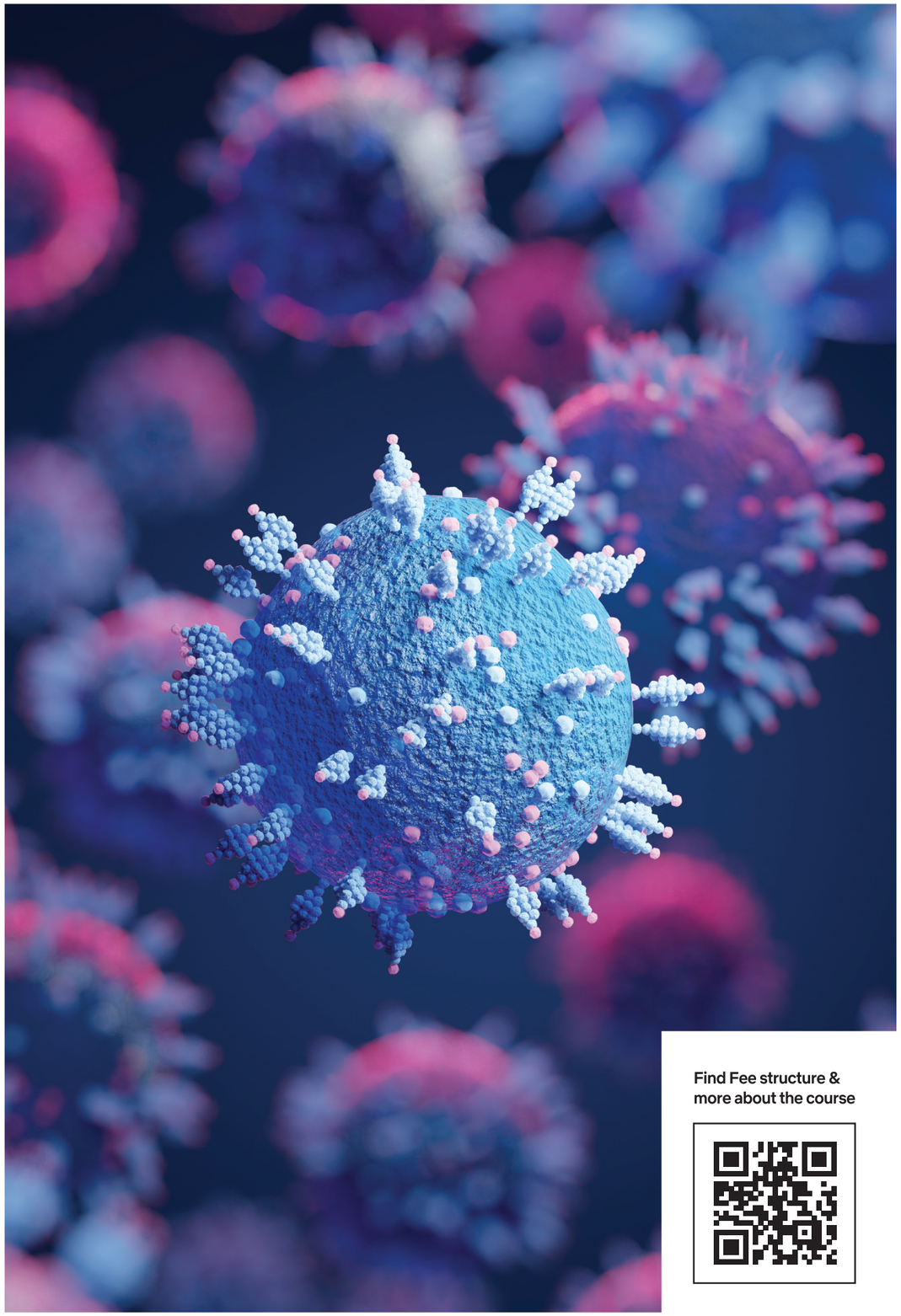
Nanomicrobiology, Nanomedicine, Botany

QUALIFICATION

Ph.D. Bangalore University, Bengaluru

EXPERIENCE

07 years of Experience



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