NIST UNIVERSITY

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Department of BIOTECHNOLOGY

Bridging the Gap Between Innovation and Standards

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THIS IS NIST UNIVERSITY

NIST University, established in 1996 as the first NRI higher educational venture in the state of Odisha. NIST University is a premier research institute in the country today, nestled in the green hills of Pallur, spread over 65 acres of lush green campus with world class academic infrastructure, CRES and GIC, Halls of residence, sport complex and other facilities. It is the dream and vision of the founding members to build NIST as a center of academics and research excellence at par with international research universities in their home state of Odisha. NIST has produced over 18000 alumni who contribute globally in the areas of technology, leadership, entrepreneurship, social and public services. NIST has been ranked highly in the country by various ranking organizations like NIRF, ARIIA, and Times etc including Govt. of India.

OUR VISION

Focused on high quality teaching, creative innovation, entrepreneurship, and universal partnership

OUR MISSION

A research institute committed to academic excellence, fundamental research and in novation, nurturing global citizens, and col laborative engagement

Department of Biotechnology

The Department of Biotechnology at NIST University is dedicated to advancing the field of Biotechnology through rigorous scientific inquiry, cutting-edge research, and the devel-opment of innovative technologies. We aim to train the next generation of biotechnologists who are not only leaders in discovery but also champions of standardization, quality, and ethical application. Our unique approach leverages NIST University's foundational expertise in measurement science and standards to ensure the reproducibility, reliability, and scalability of biotech advance-ments.

Why Join Biotechnology @NIST

- **Reliable & Impactful Research** - We ensure biotech research is accurate, reliable, and real-world ready by following rigorous sci-entific standards.
- **Real-World Applications** - Our work ad dresses key challenges in healthcare, agri culture, marine biotechnology, and envi ronmental sustainability.
- **Industry Collaboration** - Real-world proj-ects & internships.
- **Advanced Labs & Tools** - Genomics, pro teomics, high-end computing.
- **Interdisciplinary Team** - Biology, chemis try, engineering & data science.

FACULTY EXCELLENCE

Dr. Amit Patnaik
(HoD, Dept. of Biotechnology)

Dr. Amit Patnaik is an Assistant Professor and Head of the Department of Biotechnology at NIST University. He holds a Ph.D. in Biotechnology from Ranchi University, specializing in the anti-cancer properties of medicinal plants and bioactive compound screening. His research focuses on molecular mapping, tuberculosis and malaria detection, and ethnopharmacology, and he has published several research papers in reputed journals and contributed book chapters in related fields.

Research Areas: Cancer Biology, Natural Compounds

Dr. Bibhudutta Mishra
Assistant Professor
Research Areas: Bioinformatics, Virology, and Drug Discovery

Dr. Abhinash Dutta
Assistant Professor
Research Areas: Host Pathogen Interaction, Redox Biology, Epigenetics and Developmental Biology

- Dr. Amit Patnaik got a Grant from AICTE Idea lab worth 50 lakhs.
- Dr. Abinash Dutta Got Young Scientist Award at International Conference on Medical Biotechnology organized by Society for Biotechnologists, India in collaboration with Amity University, Noida (Sponsored by DBT, India; CSIR, India and ANRF, India).
- Dr. Abinash Dutta honored with the Dr. APJ Abdul Kalam Memorial Award 2025, presented by the Research Council of India (RIC)

Courses Offered:

Master of Science in Biotechnology

Research-driven program combining advanced coursework with hands-on laboratory experience. Covers genomics, biomanufacturing, and bioinformatics while building critical thinking and technical skills, preparing graduates for careers in biotechnology research, industry, and academia.

PhD in Biotechnology

A research-intensive doctoral program centered on innovation and scientific advancement. Students engage with advanced concepts in biotechnology, undertake independent research in areas such as Cancer Biology, Host–Pathogen Interaction, and Bioinformatics, and contribute to impactful solutions in healthcare, agriculture, and sustainability. Currently, the department has 7 Ph.D. scholars enrolled.

Research Areas

Biomanufacturing

Standardizing the production of biologics like pharmaceuticals, vaccines, and enzymes with a focus on quality and scalability.

Host pathogen Interactions:

Studying the Host-pathogen interaction in silk worm and Candida; Development of Synthetic compounds against antibiotic resistance

Genomics & Proteomics

Using advanced omics and bioinformatics to study biological systems, discover biomarkers, and develop personalized medicine.

Bioinformatics and Drug discovery

Using sequence and structural data for understanding biological interactions and drug discovery in viruses.

Cancer Biology

Developing drug molecules against cervical cancer.

Environmental Biotechnology

Developing sustainable solutions for waste management, bioremediation, and eco-friendly bioproducts.

Impact and Outreach:

We are committed to making a positive impact on society through:

Technology Transfer: Actively translating our research findings into practical technologies through licensing and collaborations with industry.

Public Engagement: Promoting public understanding and engagement with biotechnology through outreach programs and educational initiatives.

Policy Engagement: Contributing to the development of sound policies and regulations in biotechnology, based on scientific evidence and best practices.