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 the Assistant Professor and Head of the Department of Biotechnology at NIST University, known for his aca demic leadership and impactful research. He holds a Ph.D. in Bio technology from Ranchi University, with a specialization in the anti-cancer properties of medicinal plants and bioactive com pound screening. His research spans molecular mapping, tuber culosis and malaria detection, and ethnopharmacology, reflect ing a strong focus on real-world health applications. He has pub lished extensively in peer-reviewed journals and contributed to several book chapters in areas such as cancer biology, medicinal plants, and molecular biology.

Dr. Bibhudutta Mishra
Ph.D
Assistant Professor

Dr. Abinash Dutta
Ph.D
Assistant Professor

Courses Offered:

Master of Science in Biotechnology

A research-driven program combining advanced coursework with hands-on laboratory experience. Students explore key areas like genomics, biomanufacturing, and bioinformatics while developing innovative solutions for healthcare, agriculture, and environmental sustainability. The program emphasizes critical thinking, technical skills, and interdisciplinary collaboration. Graduates are prepared for careers in research, industry, and academia, driving advancements in biotechnology.

Ph.D. in Biotechnology

A research-driven doctoral program focused on innovation and scientific discovery. Students explore advanced topics in biotechnology, conduct independent research in areas like synthetic biology and bioinformatics, and contribute to real-world solutions in healthcare, agriculture, and sustainability. Graduates are prepared for leadership roles in academia, industry, and research institutions.

Research Areas

Biomanufacturing

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

Bioimaging & Diagnostics

Creating imaging tools and biosensors for accurate disease detection, monitoring, and drug discovery.

Genomics & Proteomics

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

Bioinformatics & Data Science

Using big data to improve drug discovery and biotech processes while promoting FAIR data practices.

Synthetic Biology

Designing and engineering biological systems for a wide range of applications, including biofuels, biomaterials, and bioremediation.

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.