NIST UNIVERSITY
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DEPARTMENT OF
PHYSICS

UNRAVELING THE LAWS THAT SHAPE THE UNIVERSE

ज्ञान-विज्ञान विमुक्तये
UGC Approved University

AICTE All India Council for Technical Education
योगः कर्मसु कौशलम्
Approved Programs

NAAC 'A' Grade

119th 2020 All India Rank
Business Standard

28th 2025 All India Rank
TIMES ENGINEERING

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www.nist.edu

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@NISTUniversity

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 collaborative engagement

Department of Physics

The Department of Physics at NIST University is committed to academic excellence, innovation, and research. Established in 1996 as part of the core engineering curriculum, it expanded with M.Sc. in 2017. With the university gaining unitary status in 2024, it now follows its own independent curriculum.

Faculty members are engaged in advanced research in nano-electronics, optics, and nano technology, while mentoring Ph.D. and M.Sc. students. The department organizes seminars, conferences, and workshops to promote student involvement in research, publications, and collaborations with national and international institutions.

Why Join Dept. of Physics

- **Expert Faculty** - 70%+ Ph.D. holders from IITs/NITs with strong academic & research backgrounds.
- **Funded Research** - ₹50+ Lakhs in DST/SERB projects completed in 3 years.
- **Future-Focused Curriculum** - Includes Python & Quantum Computing in M.Sc. program.
- **Free GATE/NET Coaching** – In-house support for competitive exam success.
- **Student Publications** - M. Sc students are publishing research papers in reputed journals.
- **Career Support** - Placement assistance in core, software & hardware sectors.

FACULTY EXCELLENCE

Dr. Deepak Kumar Swain
Ph.D (IIT Bhubaneswar)
Research Area:
Metal Nano cluster

Dr. Asish Kumar Mohapatra
Ph.D (IIT Dhanbad)
M.Tech (IIT Kharagpur)
Research Area:
Nanomaterials, Photocatalysis , Super capacitor & Bio Sensor

Dr. Ratikanta Nayak
Ph.D (IIT Bombay)
M.Tech: (CIPET BBSR)
Research Area:
Fuel cell, Flow battery & AI in material Science

Mr. Sumanta K. Pattnaik
M.Sc (Berhampur University)
Research Area:
Optoelectronics

Dr. Ashwini Kumar Behera
Ph.D (NIT Jamshedpur)
Research Area:
Theoretical Nuclear Physics
(On & Off-shell Nuclear Interactions)

Dr. Biswajit Panda
Ph.D (SN Bose national Center for Basic Science)
Research Area :
LASER& Molecular Spectroscopy

Prof. Rankanidhi Sahoo (Professor Emeritus)
Ph.D (Berhampur University)
Former Professor (Berhampur University)
Research Area:
Theoretical Nuclear Physics

Prof. Simanchalo Panigahi
Ph.D (Berhampur University)
Former Director (NIT Rourkela)
Research Area:
Magnetic material & Quantum Computing

Prof. Simanchalo Panigrah
(HoD, Dept. of Physics)

"The Department of Physics is known for its academic excellence and forward-thinking approach. With faculty from IITs and NITs, we ensure high-quality teaching, mentoring, and research.
Our integrated PG programs promote interdisciplinary learning through collaborative projects. We maintain strict academic discipline and support internships and NET/GATE preparation.
A strong research culture has led to rare achievements, including M.Sc. student publications in international journals. The curriculum, aligned with NEP 2020, includes emerging fields like Quantum Computing and AI."

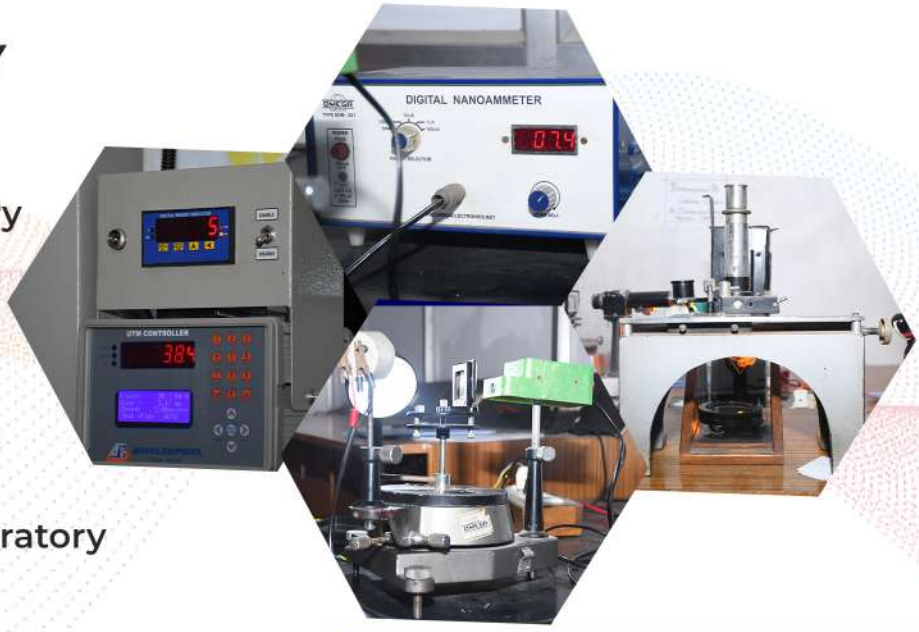
Programs offered:

Postgraduate
MSc in Physics

Doctoral
PhD in Physics

ACADEMIC LABORATORY

- Modern Physics Laboratory
- Engineering Physics Laboratory
- Optics Laboratory
- Electronics Laboratory



RESEARCH LABORATORY

- Novel Materials Research Laboratory
- Material Synthesis Laboratory

STUDENT ACHIEVEMENTS

Ms. Subhrakali Swain
Batch- (2023-25)
M.Sc Physics

Ms. Subhrakali Swain, a second-year M.Sc. student, has published her **research paper in the prestigious Journal of Energy Storage (Q1, Impact Factor 8.9),** just two weeks after completing her final lab. This rare achievement of Students reflects the department's strong research culture, dedicated mentorship, and the exceptional potential of our students. She is an inspiration for aspiring young researchers in the department.

Ms. Parimita Tripathy, under the guidance of Dr. Ratikanta Nayak, has achieved a significant milestone with her **research titled "Zero Energy Storage Solution of Green Fruits and Vegetables for Small Income Farmers,"** accepted for publication in the Journal of Food Process Engineering (Q2 Journal, Impact Factor: 3.5). This achievement highlights an innovative, sustainable solution to reduce post-harvest losses while supporting economically disadvantaged farming communities.

Ms. Parimita Tripathy
M.Sc Physics
2023-25 Batch

Mr. Manas Rn. Nayak
M.Sc Physics
2023-25 Batch

Manas Ranjan Nayak has successfully published **a book chapter titled "Innovative, Cutting-Edge Technologies for Energy Harvesting Using Polymer Nanocomposites"** in the Scopus-indexed book Sustainable Composites for Future Trends in Renewable Energy, published by Bentham Science Publishing House. This achievement reflects his strong research aptitude and contribution to advanced materials development, promoting sustainable energy solutions for future technologies.

Bibhutibhusana Panda, a student of NIST, completed a **research internship at the S. N. Bose National Centre for Basic Sciences, Kolkata (May–June 2025)**. He worked on Quantum Cascade Laser systems with a Scanning Fabry–Perot Resonator under the guidance of Dr. Biswajit Panda and Prof. Manik Pradhan, gaining valuable experience in advanced optical instrumentation and laser spectroscopy.

Mr. Bibhutibhusana Panda
M.Sc Physics
2024-26 Batch

Mr. Karan Pradhan
M.Sc Physics
2024-26 Batch

Karan Pradhan successfully completed a **six-month research internship at the Indian Institute of Science Education and Research (IISER), Berhampur**. Under the guidance of Dr. Biswajit Panda and Dr. Sandeep Chatterjee, he worked on elliptic flow in heavy-ion collisions using hydrodynamic models, gaining valuable experience in theoretical and computational analysis, enhancing problem-solving skills and research proficiency.

RESEARCH & INNOVATION

The Department of Physics actively secures funded projects from agencies like DST, AICTE, BRNS, and DRDO.

Prof. R. Sahu completed a SERB project (₹21.23L, 2021–24) on deformed shell models.

Dr. R. Nayak completed a DST-SERB project (₹17.19L, 2022–24) on ion exchange membranes.