

National Institute of Science Education & Research Bhubaneswar

Annual Report

and

Audited Statement of Accounts



भारत 2023 INDIA



2022-2023

New Research Facility

School of Biological Sciences

- Automated Peptide Synthesiser (GYROS PROTEIN Technologies) @ CIF2A
- Metal Ion Imager (Zeiss) @ Imaging facility

School of Chemical Sciences

- Glove Box Workstation EasyLab pro, Dielectric Impedance Analyser, Mass Spectrometer
- Stirred Reactor System, Microwave Synthesizer, Expression Compact Mass Spectrometer, P-series Binary HPCL with PDA Detector System with Accessories, Agilent 990 Micro GC System, Laser Head of Super Resolution Confocal Microscope etc.

School of Computer Sciences

- Added Multi-GPU system at NISER for machine learning research

School of Earth and Planetary Sciences

- Seismometers
- Thin section preparation Unit (partly)
- Polarizing Microscopes

School of Humanities and Social Sciences

- Audio-visual facility in the SHSS conference room.

School of Physical Sciences

- THz time-domain spectroscopy setup in the research lab of Dr. Shovon Pal
- Development of in-house Spin-orbit torque set-up in the research lab of Dr. Subhankar Bedanta.

- Development of in-house Spin-Seebeck effect set-up in the research lab of Dr. Subhankar Bedanta.

Centre for Medical and Radiation Physics

- **Muography laboratory:** A laboratory for cosmic muon based imaging has been setup. The lab is being used for development of RPC based portable muon radiography setup. Development of detectors for muon tomography (used for high Z material identification) is also being explored.
- **MicroPattern-Gaseous-Detector (MPGD) laboratory:** An MPGD laboratory has been setup at CMRP where R & D on Micro Pattern-Gaseous-Detectors for single photon detection is being performed. The lab will be used for developing devices for medical imaging, particle physics research and social security purposes.
- **Silicon detector laboratory:** A silicon detector lab has been setup where Silicon Pad detectors and Silicon Photomultiplier detectors are being tested. R & D on silicon detectors for high energy physics and societal imaging applications will be carried out in this laboratory.
- **ISO-6 Cleanroom:** An ISO-6 cleanroom with approximately 300 sq. ft of area has been established with passbox facility. It is being used to assemble and test both MPGD and silicon detectors.
- **6 channel gas mixing system:** The 6-channel gas mixing system is being used for gas detector R & D. It is currently catering to both Resistive Plate Chamber detectors for Muography as well as MPGD detectors for imaging and particle physics research. It has the capability to mix 6 gases in desired proportions for use in gaseous detectors.
- **Fast digitizer and ASIC based frontend electron**