



# ANNUAL REPORT

2023-2024



## होमी भाभा राष्ट्रीय संस्थान HOMI BHABHA NATIONAL INSTITUTE

( परमाणु ऊर्जा विभाग की एक सहायता प्राप्त संस्था एवं यूजीसी अधिनियम 1956 की धारा 3 के तहत एक मानद विश्वविद्यालय है )

( A Deemed to be University u/s 3 of UGC Act 1956 and a Grant-in-Aid Institute of the Department of Atomic Energy, Govt. of India )

वार्षिक प्रतिवेदन  
2023-2024

- **International Women’s Day Celebration**

The Women’s Cell of HBNI organized International Women’s Day on March 26, 2024 at DAE Convention Centre, Anushaktinagar, Mumbai by organizing special talks and panel discussion keeping in mind the UN theme for the year, “Invest in Women: Accelerate Progress.” Prof. Archana Sharma, Distinguished Scientist and Director, BTDG, BARC delivered an inspiring talk on the topic, “Women in Engineering,” wherein she highlighted the contributions of women engineers from pre-independence to present times including those from DAE who shattered glass ceilings, defied societal norms, and showcased their brilliance in diverse engineering disciplines. Prof. Vandana Nanal, Senior Professor, Tata Institute of Fundamental Research, Mumbai gave a talk titled, “Career in STEM-Challenges for Women,” summarizing various factors which hinder women from entering the STEM workforce and ways to overcome them. The talks were followed by an enlightening panel discussion on the topic, “Women Partnership & Women Leadership,” wherein panellists put forth their viewpoints about the need and measures to be taken for the advancement of women in leadership positions.

Following the formal program, a colourful cultural program by HBNI students and staff members was presented.



*Prof. Dipanwita Dutta, Associate Dean, HBNI welcoming the gathering. Dignitaries seated on the dais are Prof. D. K. Maity, Officiating Dean, HBNI, Prof. U. Kamachi Mudali, VC, HBNI, Prof. Archana Sharma, Director, BTDG, BARC, Prof. Vandana Nanal, Sr. Professor, TIFR and Prof. Aradhan Shrivastava, Chairman, Women’s Cell, HBNI (from left to right)*



*Prof. U. Kamachi Mudali, Prof. Aradhan Shrivastava, Prof. Archana Sharma and Prof. Vandana Nanal addressing the gathering on International Women's Day celebration at HBNI (from left to right)*



*Cultural program being presented by HBNI staff and students on International Women's Day celebration at HBNI*

## ❖ **Events at the Constituent Institutions (CIs)/Off-Campus Centre (OCC)**

- **IPR-LDCE National Technology Day 2023**

IPR, in association with L D College of Engineering, Ahmedabad conducted a 2-day program to celebrate the National Technology Day 2023 (NTD - 2023) at the LDCE campus at Ahmedabad during 18-19 May, 2023. This is the second year in succession that IPR and LDCE have jointly conducted this state level programme. The guests of the event were Shri Nilesh M. Desai (Director SACISRO), and Dr. Shashank Chaturvedi (Director IPR). The NTD - 2023 showcased several competitive events such as Quiz, Skit, Elocution, Code and Circuit Debugging, Technical Models and Drafting Dynamics. Student participants from engineering colleges across Gujarat also exhibited their scientific projects at the event.

## **Programme on Gender equity**

Topic: Cultivating equitable and inclusive environments

Date: 27<sup>th</sup> March 2024

Venue: Ajay Divatia Lecture Hall, VECC, Kolkata

Speaker: Dr. (Mrs.) B. K. SAPRA, Head, Radiological Physics and Advisory division, BARC, MUMBAI



# वार्षिक प्रतिवेदन ANNUAL REPORT

*Annual Report*

2023-24

वार्षिक प्रतिवेदन



हरीश-चन्द्र अनुसंधान संस्थान  
**Harish-Chandra Research Institute**

छतनाग मार्ग, झूँसी, प्रयागराज (इलाहाबाद) – 211 019  
Chhatnag Road, Jhunsi, Prayagraj (Allahabad) – 211019

## **VIGILANCE, SECURITY, DISCIPLINARY AND SEXUAL HARASSMENT REPORT**

### **Vigilance & Security Report**

There is nothing specific to report from vigilance/security point of view for the period up to 31<sup>st</sup> March, 2024. The Institute follows the instructions received time to time from DAE pertaining vigilance/security matters.

We are regularly submitting the following reports:

1. Monthly report on Anti Corruption and Vigilance Cases.
2. Monthly report on Pending Disciplinary Cases.
3. Quarterly report on Pending complaints PEs/RCs Registered by CBI.
4. Quarterly report on Action Plan on Anti Corruption and Vigilance Cases.
5. Half yearly report on Unscrupulous Contact men/Contact women.
6. Quarterly Performance Report.
7. Monthly report on prevention of Sexual Harassment of Woman at Work Place.
8. Monthly report on Pending Criminal Cases.
9. Annual report on prevent of Sexual Harassment of woman at the workplace.

We have ensured the submission of Annual Property Returns (APRs) of all eligible employees up to 31.12.2023 and they have been scrutinized.

During the year there was no report of any security lapse in the campus.

### **Disciplinary Cases**

During the year there was no Disciplinary Case against any member of the institute.

### **Sexual Harassment**

In reference to DoPT, GoI OM no 11013/2/2014-Estt (A-III) dated Feb 02, 2015 & Section 22 of Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act 2013 [SHWW (PPR) Act)], there is no case of sexual harassment was reported during the year.

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# Annual Report and Audited Statement of Accounts 2023 – 24



Institute of Physics

Bhubaneswar



Invited talk given at the “Multi-messenger Tomography of Earth (MMTE 2023)” workshop, APC-Universite Paris Cite, Paris, France, 5th July 2023

**19. Landscape of CP Violation in Long-baseline Experiments**

NPAC Seminar, Physics Department, University of Wisconsin-Madison, Madison, Wisconsin, USA, 27th April 2023

**20. Neutrino Phenomenology (Two lectures)**

7<sup>th</sup> Vietnam School on Neutrinos, ICISE, Quy Nhon, Binh Dinh, Vietnam, 20th to 21st July 2023

**21. Neutrino Physics and Oscillations**

IceCube Summer School, Wisconsin IceCube Particle Astrophysics Center, Madison, Wisconsin, USA, 5th June, 2023

**1.11 Conferences/Workshops/Schools & Outreach Events organized:**

**1.12**

**Prof. Shikha Verma**

**1. Int. Women’s day**

1st March 2023 at Institute of Physics.

**Prof. B. R. Sekhar**

**National Conference on Electronic Structure 2023 (NCES-2023)**

15-17 November 2023 at Gopalpur, Odisha.

This was a special event for the Golden Jubilee year of IOP Bhubaneswar in collaboration with TIFR Mumbai, SINP Kolkata and SNBNCBS Kolkata.

The main objective of this focused conference was to provide a unique platform for the discussions and interactions on the recent advances in electron spectroscopy, microscopy, and related theoretical approaches in understanding the electronic structure of materials. NCES was also aimed at the capacity building in the field of electronic structure. Scientists from Universities and Research Institutes working in spectroscopy, microscopy and related theory are invited to discuss their results and brainstorm future developments. The conference's topics included, ARPES, XPS, STS, EXAFS, XANES, DFT, Strongly Correlated Systems, Superconductivity, Topological Materials, Quantum Solids.

**Multi-messenger Tomography of Earth – (MMTE 2023) Workshop**





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## **Project Title: Landscape of Beyond the Standard Model Physics at Neutrino Experiments.**

**Total cost of Project: Rs. 1,00,27,040/-**

### **Dinesh Topwal**

1. Ongoing project with CRS-UGC-DAE
2. India@DESY project for performing experiments at Petra-III Synchrotron centre. Deutsches Elektronen-Synchrotron, 22603 Hamburg, Germany

### **1.14 Book Published**

#### **Prof. Shikha Verma**

1. Nanomaterials in biosensors for Medical Applications, by Rakesh K. Sahoo, Saroj Kumar Singh, Rajaram S. Mane, Shikha Varma, in Nanomaterials for Sustainable Development in Biosciences- Opportunities and Future Perspectives, published by Springer Nature, Singapore (2023) 313- 334 (doi: 10.1007/978-981-99-1635-1)

#### ***Shikha Verma***

1. **Conferences/Workshops/Schools & Outreach Events** (conducted if any):
  1. Seminars (online) on the occasion of 'Int. Women's day' on 1st March 2023 were arranged.

#### **6. Details of the Invited Talks/ Lectures:**

2. Raman Spectroscopic investigations of Graphene Quantum Dots at National Workshop cum Hands-on Training Program on Raman Spectroscopy, NIT Rourkela, Rourkela (July 2023)
3. 'Surfaces, Nanoscience, Nanomaterials and their Applications' at Vigyan Pratibha Teachers' Training Workshop-2023 at NISER, Bhubaneswar (Sept 2023)
4. Quantum Dots and Stone Wales Topological Defects in Graphene at Int. conference on Advanced Materials for Better Tomorrow (AMBT 2023), BHU, Varanasi (Oct. 2023)
5. Nanopatterning of Surfaces: For Sensor, Device and Bio-applications at Meghnad Saha Memorial Int. Conference on Frontiers of Physics (MSMICFP-2023), University of Allahabad, Prayagraj (Nov. 2023)
6. Nanoscale patterning of Surfaces: For Sensors and Bio-applications at Frontier Symposium in Physics-2024 (FSP 2024), IISER Thiruvananthapuram (Jan. 2024)
7. Nanoscale patterning of Surfaces: For Sensors and Bio-applications at National Physicists' Conclave 2024 (NPC 2024), SRM Institute of Science and Technology, Chennai (Feb. 2024)
8. Designing Graphene Quantum dots and their Photo-response at Conference on Advanced Functional Materials and Devices – 2024 (AFMD), SRM, Nanotechnology Research center, SRM Institute of Science and Technology, Chennai (Feb. 2024)

# ANNUAL REPORT

## 2023-2024



प्लाज़्मा अनुसंधान संस्थान  
Institute for **Plasma Research**  
Bhat, Gandhinagar 382428

The concluding session took place on 11th March 2024. Mr. A. Baishya delivered a General Safety Awareness talk, followed by award distribution ceremony.

### **International Women's Day Celebration 2024 at IPR**

International Women's day (IWD) is celebrated globally on 8th March, every year to celebrate the achievements of women and mark a call to action for gender equality. Abiding by guidelines issued by Government of India, IPR also celebrated "International Women's Day 2024" with all colours and global spirit from 7th March - 15th March, 2024.

Various activities were organized at IPR to create awareness, strength and women empowerment. In order to maximise the participation among all the members of IPR, FCIPT, ITER-India and CPP-IPR, all the activities were conducted in offline as well as online modes. More than 150 staff members participated in the entire celebration. Male colleagues of the Institute also participated as audience as well as speakers, sharing their thoughts on IWD.

7th March, 2024 marked the inaugural function with lighting of lamp, with invited guests Dean Admin (Dr. Subroto Mukherjee), Dean R & D (Dr. Paritosh Chaudhary), Dr. Rajesh Kumar & Dr. Ranjana Gangradey. Dean Admin, Dr. Mukherjee shared encouraging thoughts on Women empowerment and evolution of Women and their recent contributions in Global Industries and Societies. This was followed by an energetic talk delivered by Ms. Shivangi Desai, a certified Health and Nutrition coach from Ahmedabad on "Healthy lifestyles and Healing with Emotions". Another important talk was arranged on Finance management (especially for Women) delivered by Ms. Falguni Shah, Accounts Officer, IPR.

Celebration on 8th March, 2024 began with homage to Late Prof. Bimla Buti, followed by cultural events and Hindi poetries. Among the various activities during IWD celebration, a special session was arranged where experienced Women Scientists of IPR shared their personal and professional journey, motivating younger generation to rise beyond difficulties.

On 11th March, 2024 IWD celebration continued with an invited guest, Dr. Moumita Dutta, from Space Application Centre (SAC), Ahmedabad. Her interactive and motivational talk on "Evolution of Dashabhujja: Blending work and family in unison" showcased contribution on Women Scientists in various missions of ISRO. Dr. Moumita Dutta visited SST-1 and ADITYA and interacted with younger colleagues. A special lunch was organized for all the IPR Women Staff at IPR Guest House.

The concluding session of International Women's day was held on 15th March, 2024. The invited speaker was Dr. Arti Sarkar, Group Director, SAC Ahmedabad on "My journey in developing Optical payloads and their significance in Space missions". Apart from IPR Women staff, students as well as IPR male staff also participated attended and interacted with the speaker during the talk. Ms. Anita Patel, Ms. Snehlata Aggarwal and Ms. Shilpa Khandker read inspirational Hindi poetries celebrating the spirit of Women's Day. At the end of the ceremony, Dr. Ranjana Gangradey presented vote of thanks and Memento to the invited speaker from SAC, Ahmedabad. She also shared her experience and association with ISRO while interacting with the speaker on the dais. Dr. Arti Sarkar visited SST-1 and interacted with some of the working group members.

**13. Institution Celebrates/Organizes National and International Commemorative Days, Events, and Festivals:**

**TALK ON WOMEN'S DAY**

