

अणुविद्या

HBNI NEWSLETTER

ISSUE NO: 12 | DECEMBER 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)

(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)

Location of HBNI Central Office, Constituent Institutions & Off Campus Centres



HBNI Newsletter



Homi Bhabha National Institute

**(An aided institution of the Department of Atomic Energy and
a Deemed to be University under section 3 of UGC Act, 1956)**





Council of Management

(As on December 31, 2024)

◆ Prof. A. K. Mohanty, Secretary DAE & Chairman, AEC	Chairman
◆ Prof. U. Kamachi Mudali, Vice Chancellor, HBNI	Member
◆ Shri Vivek Bhasin, Director, BARC	Member
◆ Shri Pankaj Kumar Mishra, Member (Finance), AEC	Member
◆ Prof. Rakesh Ranjan, Additional Secretary (TE), Department of Higher Education, MoE	Member
◆ Shri Unmesh D. Malshe, Director, RRCAT	Member
◆ Prof. Sudeep Gupta, Director, TMC	Member
◆ Prof. Gautam Bhattacharyya, Director, SINP	Member
◆ Prof. V. Ravindran, Director, IMSc	Member
◆ Prof. Mustansir Barma, Professor Emeritus, TIFR Centre for Inter-Disciplinary Sciences, Hyderabad	Member
◆ Prof. Surendra Prasad, Former Director, IIT, Delhi	Member
◆ Prof. A. K. Tyagi, Dean, HBNI	Member
◆ Prof. P. C. Selvin, Registrar, HBNI	Non-member Secretary

Academic Council

(As on December 31, 2024)

◆ Prof. U. Kamachi Mudali, Vice Chancellor, HBNI	Chairperson
◆ Prof. A. K. Tyagi, Dean, HBNI	Member
◆ Shri Vivek Bhasin, Director, BARC	Member
◆ Shri. C. G. Karhadkar, Director, IGCAR	Member
◆ Shri Unmesh D. Malshe, Director, RCAT	Member
◆ Prof. Sumit Som, Director, VECC	Member
◆ Prof. Gautam Bhattacharyya, Director, INP	Member
◆ Prof. Shashank Chaturvedi, Director, IPR	Member
◆ Prof. Karuna Kar Nanda, Director, IoP	Member
◆ Prof. V. Ravindran, Director, IMSc	Member
◆ Prof. Dileep Jatkar, Director (Acting), HRI	Member
◆ Prof. Sudeep Gupta, Director, TMC	Member
◆ Dr. Satyajit Pradhan, Director, MPMCC & HBCH	Member
◆ Prof. H. N. Ghosh, Director, NISER	Member
◆ Prof. Siva Umapathy, IISc Bengaluru	Member
◆ Prof. Manoj K. Tiwari, IIM, Mumbai	Member
◆ Prof. Devang Khakhar, IIT, Bmbay	Member
◆ Prof. S. M. Yusuf, BARC	Member
◆ Dr. Pankaj Chaturvedi, TMC, Mumbai	Member
◆ Prof. A. Srinivasan, NISER, Bhubaneswar	Member
◆ Prof. Pranay Kumar Swain, Convenor, BoS (Applied Systems Analysis)	Member
◆ Prof. Bedangadas Mohanty, Convenor, BoS (Physical Sciences)	Member
◆ Prof. R. Tewari, Convenor, BoS (Engineering Sciences)	Member
◆ Prof. Partha Saha, Convenor, BoS (Life Sciences)	Member
◆ Prof. Meena Mahajan, Convenor, BoS (Mathematical Sciences)	Member
◆ Prof. S. D. Banavali, Convenor, BoS (Medical & Health Sciences)	Member
◆ Prof. P. K. Mohapatra, Convenor, BoS (Chemical Sciences)	Member
◆ Prof. C. Gunanathan, Convenor, BoS (Int. Master's Programme)	Member
◆ Prof. P. C. Selvin, Registrar, HBNI	Secretary

Planning & Monitoring Board

(As on December 31, 2024)

◆ Prof. U. Kamachi Mudali, Vice Chancellor, HBNI	Chairperson
◆ Shri Vivek Bhasin, Director, BARC	Member
◆ Prof. A. K. Tyagi, Dean, HBNI	Member
◆ Prof. R. B. Grover, Former Emeritus Professor, HBNI,	Member
◆ Shri C. G. Karhadkar, Director, IGCAR	Member
◆ Prof. S. Chaturvedi, Director, IPR	Member
◆ Prof. G. Bhattacharyya, Director, SINP	Member
◆ Prof. Devang Khakhar, IIT Bombay	Member
◆ Prof. Amlan J. Pal, Director, UGC-DAE-CSR, Indore	Member
◆ Prof. Jayaram N. Chengalur, Director, TIFR	Member
◆ Prof. P. C. Selvin, Registrar, HBNI	Secretary



From the Vice Chancellor's Desk



I am happy to present December 2024 issue of Anuvidhya showcasing the events and happenings at HBNI Central Office and its CIs/OCCs during the period July 2024 - December 2024.

In continuation to the organization of online courses/webinars for the benefit of students and faculty members of higher education institutes all over India, HBNI organized an online course on Advanced Materials Chemistry and four webinars by its alumni during the period July 2024 - December 2024.

The institute witnessed grand celebrations on the occasions of Independence Day (August 15, 2024), Teacher's Day (September 5, 2024) and Hindi Diwas (celebrated on October 17, 2024). A special lecture was organised as part of Dr. Sekhar Basu Memorial Program on September 24, 2024.

Week(s) long programs were organised as part of anti-ragging week (August 12-18, 2024), Swacchata Hi Seva 4.0 Campaign (September 17-October 2, 2024) and Vigilance Awareness Week (October 28-November 3, 2024).

In order to cultivate the next-generation of deep tech innovators, a six-week start-up preincubation program was initiated jointly by HBNI and AIC-BARC from October 28, 2024.

To commemorate the 75 years of establishment of DAE, HBNI organized a half-day program on the topic "HBNI: An Enabler to DAE's Academic Programs," for faculty members of the educational institutes in Mumbai on November 9, 2024. There were talks pertaining to academic programs of HBNI in (a) Nuclear sector, (b) Oncology, (c) Interdisciplinary Science and Engineering and (d) Mega Science Projects which were well received by the audience.

A half-day workshop on "Scientific Publication" was organised by HBNI on November 13, 2024 for the benefit of all its students and faculty members. Ms. Swati Meherishi, Editorial Director, Springer Nature gave a detailed overview of basic scientific writing principles and enlightened the participants about the publication process of the scientific books and how AI impacts scientific publishing.

HBNI celebrated Bharatiya Bhasha Utsav on December 11, 2024 to commemorate the birth anniversary of "Mahakavi Bharati", Subramania Bharati, the great nationalist poet, freedom fighter and a social reformer in Tamil Nadu, by arranging a multilingual webinar session where in talks in Tamil, Bengali, Marathi, and Hindi were delivered by HBNI faculty and students on the theme, "The role of Linguistic Development in the Promotion of Science." The event celebrated the linguistic diversity of India, bringing together HBNI students and faculty from all CIs/OCCs to honour the beauty and richness of regional languages.

"Fit India week" was also celebrated in HBNI where an inspiring webinar was delivered by Prof. B. K. Sapra on December 16, 2024 with the title "Fit Hai Toh Hit Hai".

I take this opportunity to congratulate HBNI faculty members and students who have received awards, academic honors, and fellowships during this period.

We keenly look forward to your comments and suggestions for further improving the newsletter.

U. Kamachi Mudali

(U. Kamachi Mudali)



In This Issue.....

◆ Events at the Central Office.....	01
◆ News Update.....	18
◆ Courses Conducted by HBNI.....	18
◆ Webinars Conducted by HBNI.....	19
◆ Events at the Constituent Institutions (CIs)/Off-Campus Centres (OCCs).....	20
◆ Conferences/ Workshops/ Theme Meetings Conducted by CIs/OCCs.....	27
◆ Scientific Outreach Activities Conducted by CIs/OCCs.....	33
◆ Awards and Honors Received by HBNI Faculty.....	38
◆ Awards Received by HBNI Students.....	41

Events at the Central Office

• Independence Day Celebration

The 78th Independence Day was celebrated with enthusiasm and patriotic fervour at HBNI on August 15, 2024 by hoisting of the National Flag by Prof. U. Kamachi Mudali, VC, HBNI in the presence of HBNI functionaries and staff. In his address to the gathering, Prof. Mudali highlighted the achievements and initiatives taken by HBNI during the past year. He also talked about the progress of education in India since independence. Prof. A. K. Tyagi, Dean, HBNI and Prof. R. B. Grover, Former Professor Emeritus of HBNI also addressed the gathering. The program ended with the recitation of National Anthem.



Prof. U Kamachi Mudali, VC, HBNI saluting the National Flag (left) and addressing the gathering (right) on 78th Independence Day celebration at HBNI

• Anti-Ragging Week Celebration

As part of the anti-ragging week (12th-18th August 2024) celebration, HBNI Central Office, Mumbai, organised a slogan and poster competition with the theme “United Against Ragging”. Students from across CIs and OCCs sent their entries for the competition. The entries received were judged by a three membered committee. The best entries for both the competition were awarded prizes. The competition also served as the reminder to all of us about the ill-effects and criminal nature of ragging and to condemn it in all its forms across all our CIs and OCCs.

1st prize

**Together we fight, for what's right
End ragging with all our might!**

Santosh Sourav Sahoo, BARC, Mumbai

3rd Prize

Stop ragging, start respecting!

Monisha Ponsakthi, BARC, Mumbai

2nd prize

आओ मिलकर हाथ बढ़ाएँ, देश प्रगति को रफ्तार दिलाएँ

रैगिंग है एक अपराध, आओ हाथ मिलायें,

ज्ञानपीठ को मिलकर, हम सब रैगिंग मुक्त बनाएँ।

Sushmita Bhartiya, RRCAT, Indore

Consolation Prize

Radiate Respect: Irradiate Ragging

Mahesh M Malage, BARC, Mumbai

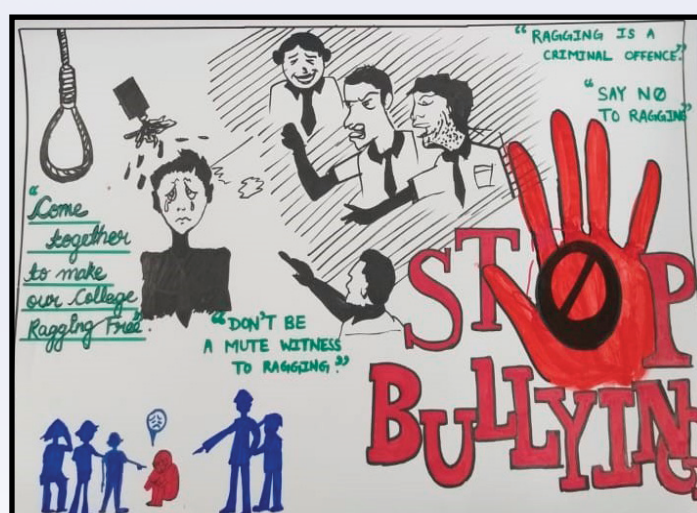
Winning entries for the slogan competition on the title "United Against Ragging"

**1st Prize**

Anusree Dey, BARC, Mumbai

**2nd Prize**

Sindhuja Singh, BARC, Mumbai

**Consolation Prize**

Shivangi Dwivedi, BARC, Mumbai

Winning entries for the poster competition on the title "United Against Ragging"

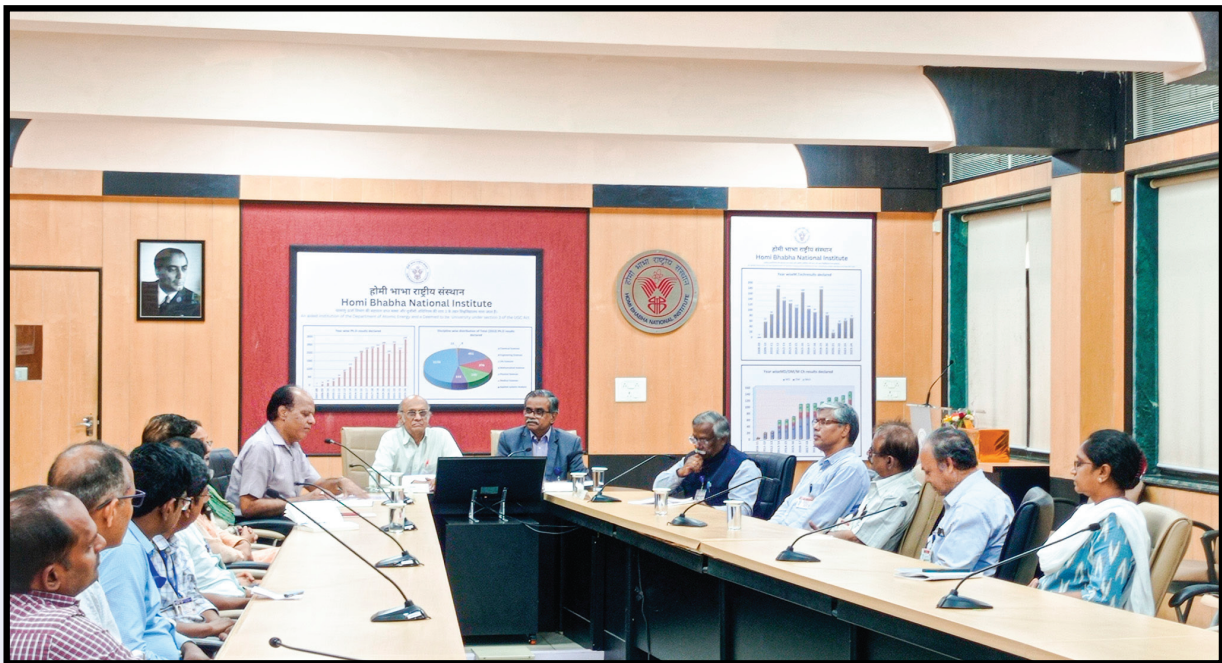
• Teacher's Day Celebration

Teachers' Day was celebrated at the Central Office on September 5, 2024 in hybrid mode. Dr. S. Kailas, Former Director, Physics Group, BARC, Mumbai graced the occasion as Chief Guest.

Prof. A. K. Tyagi, Dean, HBNI welcomed the gathering. Prof. U. Kamachi Mudali, VC, HBNI gave the opening remarks and emphasized the role of the HBNI faculty in making HBNI an institute of repute in the country.

In his address to the gathering, Dr. Kailas talked about the life and works of Dr. S. Radhakrishnan paying tribute to his contributions to education and philosophy. He also shared many innovative ideas which will help grow HBNI as a Higher Education Institute.

The program concluded with vote of thanks proposed by Prof. P. C. Selvin, Registrar, HBNI.



Teacher's Day celebration at HBNI

• हिन्दी दिवस समारोह

हिन्दी दिवस के अवसर पर होमी भाभा परिषद कक्ष में दिनांक 17 सितम्बर, 2024 को दोपहर 2:30 बजे एक समारोह का आयोजन किया गया। इस अवसर पर श्री के. महापात्रा, निदेशक, निर्माण, सेवा एवं संपदा प्रबन्धन निदेशालय मुख्य अतिथि थे।

समारोह की शुरुआत प्रोफेसर बी. के. नायक, अध्यक्ष, आधिकारिक भाषा कार्यान्वयन समिति, एचबीएनआई द्वारा स्वागत भाषण देने के साथ हुई। तत्पश्चात्, प्रो. यू. कामाची मुदली, कुलपति, एचबीएनआई ने हिन्दी दिवस की हार्दिक शुभकामनाएं दीं और कहा कि हिन्दी भाषा हमारे देश की सांस्कृतिक धरोहर की प्रतीक है। प्रो. ए. के. त्यागी, डीन, एचबीएनआई ने भी सभा को संबोधित करते हुए हिंदी दिवस के अवसर पर अपनी शुभकामनाएं दीं और मुख्य अतिथि का परिचय दिया। मुख्य अतिथि श्री के. महापात्रा ने हिंदी दिवस के उपलक्ष्य पर सभा को संबोधित करते हुए कहा कि इस वर्ष का हिंदी दिवस समारोह विशेष है क्योंकि इस वर्ष हिंदी को संघ की आधिकारिक भाषा के रूप में अपनाए जाने की 75वीं वर्षगांठ है।

उन्होंने आगे कहा कि हिंदी भाषा केवल एक भाषाई माध्यम होने के अलावा भारत में महत्वपूर्ण सांस्कृतिक, सामाजिक और राजनीतिक महत्व रखती है। उन्होंने बताया कि राजभाषा नीति के उत्कृष्ट कार्यान्वयन के लिए परमाणु ऊर्जा विभाग को भारत सरकार के राजभाषा विभाग द्वारा वर्ष 2023-24 के लिए राजभाषा कीर्ति पुरस्कार (प्रथम पुरस्कार) से सम्मानित किया गया है जो अत्यन्त हर्ष और गर्व की बात है। उन्होंने 13 सितंबर को एचबीएनआई द्वारा आयोजित अंग्रेजी-हिंदी अनुवाद प्रतियोगिता, हिन्दी सुगम संगीत प्रतियोगिता और हिन्दी काव्य पाठ प्रतियोगिता के विजेताओं को पुरस्कार भी वितरित किए। प्रो. नवीन कुमार, सदस्य, आधिकारिक भाषा कार्यान्वयन समिति, एचबीएनआई, ने धन्यवाद प्रस्ताव प्रस्तुत किया और राष्ट्रगान के गायन के साथ कार्यक्रम का समापन हुआ।



परिषद कक्ष में हिंदी दिवस समारोह में भाग लेते एचबीएनआई के पदाधिकारी एवं कर्मचारी



अंग्रेजी-हिंदी अनुवाद प्रतियोगिता के विजेता श्री के. महापाला से पुरस्कार प्राप्त करते हुए

- **Dr. Sekhar Basu Memorial Program**

HBNI organized a memorial program in honour and remembrance of late Dr. Sekhar Basu, Former Secretary, Department of Atomic Energy and Former Chairman, Council of Management, HBNI on September 24, 2024 in hybrid mode. Shri S. A. Bhardwaj, Former Chairman, Atomic Energy Regulatory Board (AERB) was the Chief Guest on the occasion. The program was attended by Dr. R. Chidambaram, Former Principal Scientific Advisor, GoI and Former Secretary, DAE; Prof. R. B. Grover, Former Emeritus Professor, HBNI; Shri A. K. Anand, Former Director, Reactor Projects Group, BARC, and Mrs. Dola Basu, wife of late Dr. Sekhar Basu along with all HBNI officials and staff members.

The program began with the welcome address delivered by Prof. A. K. Tyagi, Dean, HBNI. An audio-visual compilation highlighting the life and works of Dr. Sekhar Basu was shown on the occasion. Prof. U. Kamachi Mudali, VC, HBNI gave presidential address and introduced the speaker.

Shri S. A. Bhardwaj delivered Dr. Sekhar Basu Memorial lecture titled “Indian Nuclear Power Program - A Journey from Past to Future.” In his talk, he gave a brief account of the developments in Indian nuclear power program over the years since its inception immediately after independence and future challenges to increase the installed nuclear power capacity in the country.



Dr. Sekhar Basu Memorial Program on September 24, 2024 in HBNI

- **Observance of “Swachhata Hi Seva 4.0 Campaign**

HBNI organized various activities during the period from September 17 to October 2, 2024 under the “Swachhata Hi Seva” campaign on the theme “Swabhav Swachhata - Sanskar Swachhata.” As a part of the campaign, Swachhata Pledge was taken by all the staff and officials of HBNI on September 26, 2024 making a commitment to uphold cleanliness and environmental integrity.

The institute also led a profound cleanliness drive during the period wherein HBNI officials and staff came together to clean the areas in and around HBNI office premises. Several indoor plants were kept in the entrance and office of HBNI to beautify the place and flex banners with slogan “Swabhav Swachhata - Sanskar Swachhata” were displayed throughout the institute. During this special campaign, maximum efforts were made to segregate old records, scrapping unwanted papers and documents as per the laid procedure, and digitization of records. As a result, nearly 200 kgs of academic and faculty files, bound theses, and CDs were reviewed and weeded out.



Swachhata Pledge being taken by HBNI Officials and staff on September 26, 2024

• Workshop on “IPR and Industry – Academia Linkages”

A half-day workshop on “IPR and Industry – Academia Linkages” was organized by HBNI on October 9, 2024 in hybrid mode for the benefit of HBNI students and faculty members. The workshop featured three talks by experts in “Intellectual Property Rights.” Prof. Prabuddha Ganguli, Honorary Professor, HBNI gave an enlightening talk on the topic “Overview of HBNI IPR Policy”. Shri Dani Rajiah, Ex-member Secretary, IPR Cell, DAE gave a talk on the topic, “Protecting Innovations” Shri Daniel Babu, Head, Technology Transfer and Collaboration Division, BARC delivered a talk on “Technology and Innovation at BARC.” The workshop saw participation from many HBNI faculty members and students from different CIs/OCCs of HBNI both in online and offline mode.



Prof. Prabuddha Ganguli delivering his talk



Shri Dani Rajiah delivering his talk



Shri Daniel Babu delivering his talk

- **Observance of Vigilance Awareness Week - 2024 (VAW-2024)**

As per the directives of the DAE, HBNI observed Vigilance Awareness Week from October 28, 2024 to November 3, 2024, on the theme of “Culture of Integrity for Nation’s Prosperity.” The observance of Vigilance Awareness Week 2024 commenced with the integrity pledge being taken by HBNI officials and staff on October 28, 2024. Flex banners with slogan “Culture of Integrity for Nation’s Prosperity” were displayed throughout the institute during the awareness week. Also, many competitions were held at the institute which included, (a) Essay writing competition in English and Hindi on the topic, “Culture of Integrity for Nation’s Prosperity,” (b) Rangoli (c) Poster competition on the theme of VAW-2024, (d) Slogan writing competition in English and Hindi and (e) Elocution competition on the topic, “My Role in Preventing Corruption.”. Additionally, HBNI organized a talk by Shri Gigi Joseph, Head, Security Electronic and Cyber Technology Division, BARC on the topic “Cyber Hygiene and IT Security” on 18.10.2024, detailing various aspects of cyber security, common cyber threats and how to tackle them. The prize distribution function to award the winners of various competitions held was organized on November 4, 2024 and Prof. U. Kamachi Mudali, VC, HBNI gave away the prizes.



HBNI officials and staff undertaking Integrity Pledge on October 28, 2024



Rangolis made by the participants during rangoli competition



Poster competition in progress



Prize winners of various competitions held during VAW-2024 receiving their prizes from Prof. U. Kamachi Mudali, VC, HBNI

- **Theme Meeting titled “HBNI: An Enabler to DAE’s Academic Programmes”**

HBNI organized a half-day theme meeting titled, “HBNI: an Enabler to DAE’s Academic Programmes”, on November 9, 2024 at Multi-Purpose Hall, Training School Hostel, Anushaktinagar, as a part of the Platinum Jubilee Celebrations of the Department of Atomic Energy (DAE). The major objective of the meeting was to enlighten faculty members from various Science and Engineering Colleges (in and around Mumbai) about HBNI. The meeting saw participation from professors, associate professors, and assistant professors from Vivekanand Education Society’s Institute of Technology, Centre for Excellence in Basic Sciences, B K Birla college of Arts Science and Commerce, University of Mumbai, Institute of Chemical Technology, etc.

Prof. U. Kamachi Mudali, VC, HBNI welcomed the participants. In his address, he spoke about HBNI and its various academic programmes, describing the strong philosophy of interdisciplinary research which is the unique feature of HBNI as a research university. He also informed the participants about excellent performance of HBNI, securing 6th position in research category in the latest NIRF ranking, and placing itself in the 1st position in terms of publications in physical sciences in the latest Nature Index (2024) India ranking.



Prof. U. Kamachi Mudali, VC, HBNI welcoming the participants

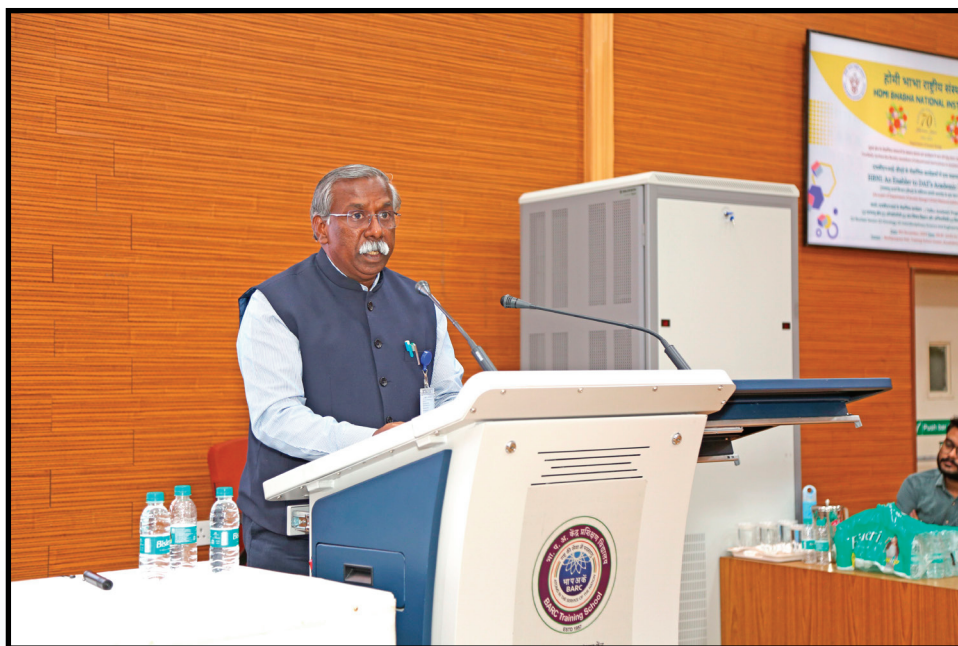
During the two technical sessions, four talks were delivered by eminent scientists and engineers from DAE. Prof. A.K. Tyagi, Dean HBNI delivered a talk titled “Interdisciplinary Science and Engineering: Hallmark of DAE.” In his talk, Prof. Tyagi remarked that interdisciplinary research has been a part of various DAE pro-grams since its inception and it has helped DAE to work towards fulfilling its mandates. Prof. S. M. Yusuf, Director Physics Group, BARC gave a talk on the topic, “Mega Science Programs in BARC” wherein he gave a detailed information about the large-scale experimental facilities existing in Physics Group, BARC, viz., Synchrotron at Indus-1 & Indus-2, National Facility for Neutron Beam Research at Dhruva, BARC-TIFR Pelletron-Linac Facility, MACE Telescope at Hanle, etc.

He also talked about the research being carried out in the field of accelerator/reactor-based fusion-fission, nuclear astrophysics, nuclear data management and reactor-based neutrino physics at BARC. Prof. S. D. Banavali, Department of Medical and Pediatric Oncology, Tata Memorial Centre spoke on “Role of TMC in Cancer Care in India,” giving a detailed account of efforts made by TMC to create adequate infrastructure and trained work force in the field of oncology with an aim to provide affordable cancer care to one and all. Shri B. K. Chakraborty, Sr. Executive Engineer, Nuclear Power Corporation of India Limited, gave an informative talk on the topic “India’s Nuclear Power Programme: Evolution and Road Ahead” giving an overview of the developments in Indian nuclear power program over the years and roadmap to provide about 100 GW nuclear power capacity by 2047.



Prof. A. K. Tyagi (top left), Prof. S. M. Yusuf (top right), Prof. S. D. Banavali (bottom left) and Shri B. K. Chakraborty (bottom right), delivering their talks during the theme meeting

The technical sessions were followed by an interactive session wherein various queries by the participants were answered by the speakers satisfactorily. The participants were informed about the different ways by which they can collaborate with scientists and engineers of DAE and make use of its excellent infrastructure for their research. The meeting ended with a vote of thanks by Prof. P. C. Selvin, Registrar HBNI.



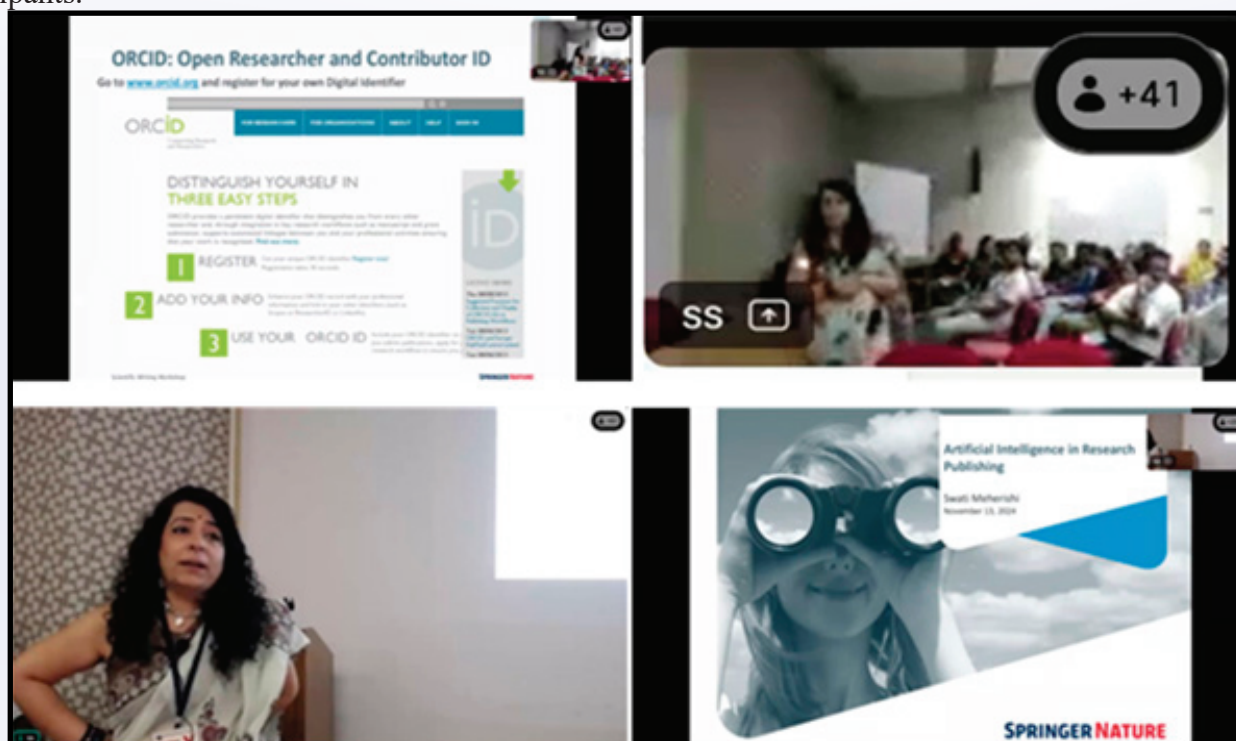
Prof. P. C. Selvin proposing the vote of thanks



Participants of the theme meeting

- **Workshop on Publishing Books and Research Papers, jointly with BARC**

HBNI conducted a workshop on the topic “Scientific Publication” in collaboration with Materials Group, BARC for the benefit of its students and faculty across all CIs/OCCs in hybrid mode on November 13, 2024. The major aim of the workshop was to help in developing/enhancing skills for writing technical papers and books for the participants which included HBNI doctoral students, post-doctoral fellows, and faculty members across all its CIs/OCCs. The workshop was conducted by Ms. Swati Meherishi, Editorial Director at Springer Nature and included talks by her on the topics “Scientific Publication” and “AI in Publication.” Through her talk on Scientific Publication, Ms. Meherishi enlightened the participants about skills of writing papers for international publications. Her presentation included how to structure a research paper, what would be the relevant sections and their constitutions, language tips in writing journal articles, etc. She also discussed about the ethical issues in publishing, especially plagiarism, self-plagiarism, ethical clearances, authorship disputes, how to treat data, where to get advice on ethics, etc. Her second talk was about the impact of Artificial Intelligence in publication. Starting with the basics of Large Language Models (LLMs), the speaker discussed about the advantages and pitfalls of using LLM based tools for research and publishing. She also discussed the current trends and lookout of the researchers around the globe about the use of AI and LLMs. The presentation was well appreciated by the participants.



Glimpses of Workshop on Scientific Publication

- **Start-up pre-incubation program jointly organized by HBNI and AIC-BARC**

Homi Bhabha National Institute, HBNI, Mumbai and the Atal Incubation Center, Bhabha Atomic Research Centre (AIC-BARC) organized a six-week “Cohort Pre-incubation program” starting 28 October 2024. A productive co-founder pairing session for the second cohort was organized on 10th November 2024 at HBNI Council Hall, Anushaktinagar. The event received active support from HBNI, which encouraged Ph.D. and M.Tech students to participate in this cohort. The session was also broadcast live on YouTube, providing access to remote students across Maharashtra interested in contributing to deep-tech innovation. The co-founder pair-ing event marks a significant milestone in AIC-BARC’s mission to cultivate the next generation of deep-tech innovators, fostering a community where groundbreaking research ideas can flourish into viable commercial ventures.

The CEO of AIC-BARC shared key tips with applicants on approaching BARC and DAE research challenges, emphasizing breaking down these complex problems into manageable components aligned with the start-up team’s skill sets, thereby increasing the feasibility of tackling them within a start-up framework. This approach is essential for creating practical commercialization opportunities and developing solutions that can effectively bridge advanced research with market needs.

Following the session, applicants were invited to submit a preliminary action plan for their chosen ideas, which will qualify them for participation in the upcoming six-week online program.



Participants of the Start-up preincubation program jointly organized by HBNI and AIC-BARC

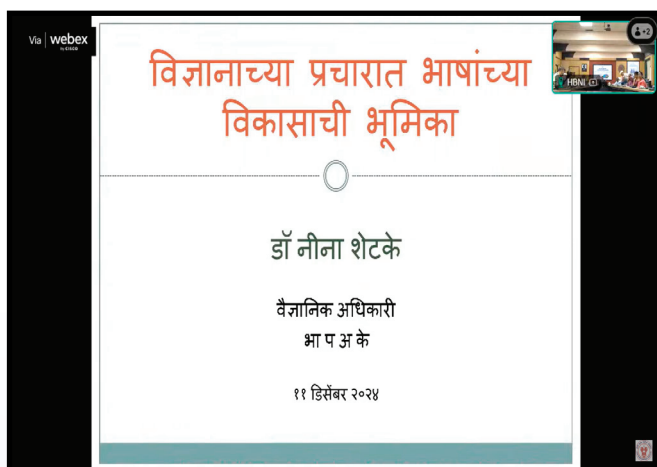
- **Bharatiya Bhasha Utsav at HBNI**

As per UGC advisory, HBNI celebrated Bharatiya Bhasha Utsav on December 11, 2024, commemorating the birth anniversary of the esteemed Tamil poet, writer, journalist, and freedom fighter, Mahakavi Subramania Bharati by organizing a multilingual webinar session on the theme “The role of linguistic development in the promotion of science.”

The event began with the welcome address by Prof. A. K. Tyagi, Dean HBNI. In his introductory remarks, Prof. U. Kamachi Mudali, VC, HBNI told that the major objective of observing Bharatiya Bhasha Utsav is to celebrate India’s linguistic diversity and unity, and cultural heritage, while also promoting multilingualism as envisioned in the NEP-2020. In the webinar session, Dr. N. Ramanathan, IGCAR, Ms. Sanchita Ghosh, BARC, Dr. (Ms.) Neena Shetake, BARC, and Dr. (Ms.) Rachna Agarwal, HBNI delivered their talks in Tamil, Bengali, Marathi, and Hindi respectively. Each talk was followed by a panel discussion wherein panelists who were experts in their respective languages put forth their viewpoints. The important takeaway from the panel discussions was that to ensure quick and effective implementation of science communication and popularisation at all levels in the society, connecting through one’s own language is of utmost importance. As majority of the students in India undergo their schooling in Indian languages, providing contemporary information on science & technology in their own mother tongue is imperative to build scientific knowledge in the society and nurture scientific temper. The program ended with a vote of thanks by Prof. P. C. Selvin, Registrar HBNI.



Glimpses of the Bharatiya Bhasha Utsav celebration at HBNI



Glimpses of the Bharatiya Bhasha Utsav celebration at HBNI

• Fit India Week Celebration at HBNI

UGC urges all HEIs to actively participate in the Fit India Movement of Government of India for promotion of awareness of fitness among its various stakeholders. In this regard, to celebrate the 6th edition of “Fit India Week”, which was scheduled to be celebrated between 15th November 2024 to 31st December 2024, a webinar was conducted by HBNI on 16th December 2024. Prof. B. K. Sapra, Outstanding Scientist and Head, Radiological Physics and Advisory Division, BARC was the speaker of the webinar titled “Fit Hai Toh Hit Hai”.

The event was conducted in hybrid mode in HBNI Council Hall, Anushkatinagar, Mumbai and was streamed in WebEx and YouTube. The session commenced with a Fit India Pledge to promote active and healthy living. Prof A. K. Tyagi, Dean, HBNI gave welcome address, emphasizing the importance of fitness in daily life and highlighting its benefits for both physical and mental well-being. Prof. Dipanwita Dutta, Associate Dean, HBNI, introduced the speaker, highlighting that Prof. B. K. Sapra is not only a Senior Professor of HBNI and Ph.D. guide having more than 150 research papers, 4 book chapters, but also a national level badminton champion as well as Secretary, DAE Sports and Cultural Council. Prof. Sapra, through her talk, shared practical tips on maintaining fitness both physically and mentally, emphasizing the importance of consistency and simple daily habits. She also mentioned the importance of balanced diet. The speaker concluded her talk with a motivating message from Hon'ble Prime Minister Shri Narendra Modi, encouraging participants to prioritize fitness as a daily habit and give minimum 30 minutes every day for fitness. The session concluded with a vote of thanks by Prof. P. C. Selvin, Registrar, HBNI. The event was attended by almost 80 participants that included students, faculty members, and officials of HBNI and scientists and employees of BARC. The program was well appreciated by everyone.



Glimpses of the Fit India week celebration at HBNI

News Update

- HBNI signed MoUs with Indian Institute of Technology (IIT), Jammu and Indian Institute of Technology (IIT), Guwahati.
- HBNI conducted faculty induction programs in hybrid mode on September 30, 2024 and December 9, 2024 for the benefit of newly inducted faculty members to brief them about the structure of academic processes and ordinances of HBNI. Fifteen new faculty members and six teaching staff from different CIs/OCCs of HBNI attended the program on September 30, 2024. Twenty-five new faculty members and six teaching staff from different CIs/OCC of HBNI attended the program on December 9, 2024.

Courses Conducted by HBNI

During the period of July 2024 to December 2024, an online course on Advanced Materials Chemistry was conducted by HBNI. The details about the course are given below.

- **Online Course on Advanced Materials Chemistry**

An online course on “Advanced Materials Chemistry” was conducted by HBNI from October 14 to December 23, 2024. Prof. A. K. Tyagi, Dean, HBNI was the Course Director. The broad topics covered under the course included general materials chemistry, characterization techniques, major trace and ultra-trace chemical analysis techniques, and functional materials. Twenty-nine students from CIs/OCCs of HBNI and other educational institutes from all over India attended the course and benefitted from it.

Webinars Conducted by HBNI

1. Career Prospects in Quantum Computing (30.08.2024) (Alumni Webinar)

Dr. Sandeep Joshi, Scientific Officer (E), Nuclear Physics Division, BARC.

2. My Journey as a Physics Scholar of HBNI to the Scientist at University of Wisconsin - Overview on Post Ph.D. Opportunities for Early Career Researchers (04.10.2024) (Alumni Webinar)

Dr. Jagadeesh Sure, Scientist, Department Nuclear Engineering and Engineering Physics, University of Wisconsin-Madison (WI, USA)

3. From Ph.D to independent faculty (25.10.2024) (Alumni Webinar)

Dr. Lalit Sehgal, Assistant Professor, Division of Hematology, The Ohio State University, USA

4. Understanding lncRNA Functions in Plasticity and Neurodegeneration (22.11.2024) (Alumni Webinar)

Dr. Kaushik Chanda, Postdoctoral Research Associate, Scripps Research Institute, Florida, USA

5. My Professional Journey from a Research Lab to the Global Industry (20.12.2024)

Dr. Kruti Halankar, R&D Product Leader, Mercedes Benz & Automotive Cell Company, Germany

Events at CIs/OCCs

• Thirteenth Graduation Ceremony at NISER

The thirteenth graduation ceremony of NISER was held on July 9, 2024, to celebrate the achievements of students who completed their academic programmes in June 2024. The ceremony was graced by the Honourable President of India, Smt. Droupadi Murmu, who delivered the prestigious graduation address. The occasion was further honoured by the presence of distinguished guests, including the Honourable Governor of Odisha, Shri Raghubar Das, and the Honourable Chief Minister of Odisha, Shri Mohan Charan Majhi, who attended as guests of honour.

Prof. Ajit Kumar Mohanty, Secretary of the Department of Atomic Energy (DAE) and Chairman of the NISER Board of Governors, presided over the function. This year, a total of 157 students graduated with an integrated M.Sc., 13 with an Integrated M.Sc.-Ph.D., 68 with a Ph.D., and 10 with an M.Sc. in Medical & Radiological Physics.



Glimpses of the 13th Graduation Ceremony of NISER

• 78th Independence Day celebration at CIs/OCCs

The 78th Independence Day was celebrated on August 15, 2024 by CIs/OCCs of HBNI with a lot of enthusiasm and patriotism. The directors of the institutes hoisted the National Flag followed by the recitation of National Anthem. The event was marked by vibrant plantation drives, sports activities for the staff and their families and engaging cultural performances.



Independence Day celebration at IPR (top) and NISER (bottom)

- **Anti-Ragging Week Programs at CIs/ OCCs**

To reinforce its commitment to a ragging-free environment, IoP observed both Anti-Ragging Day and Anti-Ragging Week, which saw enthusiastic participation from students, faculty, and staff. The activities were conducted in strict accordance with the mandates of the UGC and AICTE. An awareness program was organized on August 12, 2024, Block-A Lecture Hall to educate students about the laws concerning ragging and its detrimental effects on victims' lives.



Anti-Ragging sign at IoP premises



Attendees of anti-ragging awareness program at IoP

At IMSc, Chennai, there was a meeting of anti-ragging committee/cell, anti-ragging discussions with student groups and poster display against ragging.



Meeting of students group for anti-ragging discussion at IMSc, Chennai

At VECC, Kolkata, all the members of Anti-ragging committee (ARC), Anti-ragging squad (ARS) and Anti-ragging monitoring committee (AMC) met with the fresher JRFs (12 nos.) along with senior students on 1st August 2024 apart from regular orientation programme organized for welcoming the new batch of students joining Ph.D. programme at VECC. A brief presentation on the menace of ragging and its consequences as per the UGC regulations in higher educational institutions was delivered. Different anti-ragging measures were discussed in the meeting. Students were informed about the contact number details of the anti-ragging committee members (ARC, ARS, and AMC).



Members of anti-ragging committee (ARC, ARS and AMC) along with the fresher JRFs and senior students (Ph.D.) at VECC, Kolkata

- **Observance of “Swachhata Hi Seva 4.0” Campaign by CIs/OCCs**

As a part of “Swachhata Hi Seva 4.0” Campaign, the CIs/OCCs of HBNI organized a series of activities which included (i) cleanliness drives both within and outside the office premises, (ii) walkathons, health awareness programs and talks, (iii) tree plantation drives, and (iv) waste management, record management and scrap disposal, etc. Variable Energy Cyclotron Centre Kolkata, in tune with the national mission for lean Ganga project (Namami Gange) of Govt. of India, organized a mass awareness campaign for cleanliness drive, starting from Gaumukh to Haridwar, aiming at reducing pollution in the river, conserving, and rejuvenating the river banks and maintaining the ecological balance. A team of five members from VECC took part in this Special Swachhata Campaign 4.0 from October 15 to 25, 2024. A huge amount of waste materials including non-biodegradable plastic waste collected from Rishikesh Triveni ghat and entire trek route starting from Gangotri to Gaumukh was handed over to the local civic body for systematic disposal. The team also delivered lectures on the “Activities of Department of Atomic Energy” and “Sustainable Plastic Waste Management at High altitude” in prestigious institute called NIM, Uttarkashi. Glimpses of “Swachhata Hi Seva 4.0” campaign carried out by CIs/OCCs of HBNI are given below.



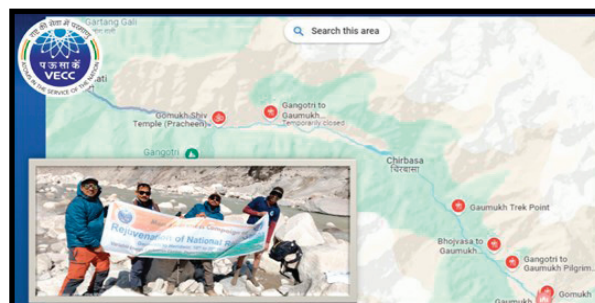
Cleanliness drive being carried out by HRI staff inside campus



Cleanliness drive being carried out by HRI staff outside campus near the bank of Ganga River



Awareness campaign and massive cleanliness drive carried out by VECC team at Triveni Ghat, Rishikesh on October 16, 2024



Awareness campaign and massive cleanliness drive carried out by VECC team for the entire trek route from Gangotri to Gaumukh glacier from October 18-21, 2024



Tree plantation drive at IPR

- **National Space Day Celebration at NISER**

In recognition of India's historic achievement with the successful Chandrayaan-3 mission's landing on the Moon, the Hon'ble Prime Minister declared August 23rd as "National Space Day" to be celebrated nationwide. To commemorate this milestone, the School of Earth & Planetary Sciences at NISER organized an engaging series of events, including lectures, space quiz, and panel discussions, featuring contributions from distinguished guests and esteemed experts on August 23, 2024. The celebration provided an exciting journey into the cosmos.

In conjunction with National Space Day, NISER proudly inaugurated its state-of-the-art Observatory, 'KALPANA,' in honour of Kalpana Chawla's legacy. The newly established Roll-Off-Roof Observatory, developed with the dedication of the NISER Astronomy Club, is now fully operational. Equipped with advanced telescopes, including an 11" Schmidt-Cassegrain hybrid telescope and an 8" reflecting Newtonian telescope, the observatory significantly enhances capabilities for deep-sky observation and astrophotography, marking a new chapter in NISER's astronomical endeavours.



National Space Day celebration at NISER

- **First DAE Conclave as part of Platinum Jubilee Celebrations of DAE at NISER**

The first DAE Conclave was held at NISER during October 22-26, 2024 and marked the inaugural edition of the Annual Convention of DAE Scientists and Engineers, as part of the DAE Platinum Jubilee celebrations. The significant event brought together over 500 scientists, engineers, and experts to discuss innovations in nuclear science and technology across several key areas such as Energy Security, Food, Water, and Waste Management, Healthcare, Basic Sciences and Education, and Advanced Technologies. The Conclave also featured over 300 poster presentations and 50 exhibitors, promoting DAE's technologies for societal benefits and encouraging collaboration in science and innovation. The event supported DAE's vision of a sustainable future and reinforced India's leadership in science and technology.



Inauguration Ceremony of DAE Conclave 2024 at NISER

- **Sports Activities of Various Student's Clubs at NISER**

NISER's inter-batch sports tournament "Unity Cup", designed to foster camaraderie, teamwork, and healthy competition among students, was organised by their sports club between Oct-Nov, 2024. The event saw batches from various years, competing in a wide range of sports including basketball, cricket, football, athletics, and more. With a points system rewarding both team and individual excellence, the Unity Cup aims to enhance student engagement in sports, identify and nurture talent for future inter-college competitions, and create a vibrant, competitive atmosphere on campus.

Conferences/Workshops/Theme Meetings organized at CIs/OCCs

• Workshop on Electrochemical Science and Technology at BARC

Analytical Chemistry Division, Chemistry Group in association with the Indian Society for Electroanalytical Chemistry (ISEAC) organized the DAE-BARC sponsored one day workshop on Electrochemical Science and Technology (EST-2024), on 6th July 2024 at Multipurpose Hall, Training School Hostel, Anushaktinagar. The workshop was inaugurated by Dr. Awadhesh Kumar, Associate Director, Chemistry Group and the opening lecture of the workshop was delivered by Dr. R. Tewari, Director, Materials Group. The workshop was attended by 156 registered participants which includes 45 delegates from BARC, 15 faculty members from various Universities and 105 research scholars from different universities. The technical content of the work-shop was highly appreciated by the scientists, faculty members and the research scholars from universities. The topics cover under the conference included,

- i. Energy Storage & conversion (Battery, supercapacitor, fuel cell),
- ii. Electroanalytical Chemistry, Sensors, Biosensor,
- iii. Electrocatalysis,
- iv. Environmental Science and Technology, Spectro-and Photo-electrochemistry,
- v. Instrumentation.



Participants of the Workshop on Electrochemical Science and Technology

• राजभाषा कार्यक्रम के अंतर्गत हरीश -चंद्र अनुसंधान केंद्र में वैज्ञानिक हिंदी कार्यशाला का आयोजन

हरीश -चंद्र अनुसंधान केंद्र में राजभाषा कार्यक्रम के अंतर्गत वैज्ञानिक हिंदी कार्यशाला दिनांक 5-8 जुलाई, 2024 को आयोजित की गयी जिसमें हिंदी माध्यम से अध्यनरत कक्षा 11 एवं 12 के लगभग 40 विद्यार्थियों ने भाग लिया। कार्यशाला में भौतिकी, गणित और कंप्यूटर विज्ञान में शिक्षा प्रदान करने पर ध्यान केंद्रित किया गया, जिसमें सभी सामग्री हिंदी में दी गयी। इस पहल का उद्देश्य वैज्ञानिक शिक्षा और हिंदी भाषा के बीच की खाई को पाटना था, और सुनिश्चित करना था कि छात्र अपनी मूल भाषा में जटिल अवधारणाओं को अधिक प्रभावी ढंग से समझ सकें। शिक्षा के माध्यम के रूप में हिंदी का उपयोग करके, कार्यशाला ने इन तकनीकी विषयों को छात्रों के लिए अधिक सुलभ और प्रासंगिक बना दिया।

• Seventh DAE National Yoga Conference at NISER

The 7th DAE National Yoga Conference, themed “Ancient Yogic Science for Modern Lifestyle Management,” was held at NISER during September 28-29, 2024. The event brought together renowned scholars, practitioners, and yoga enthusiasts from all over India to explore the relevance of ancient yogic practices in modern life. The conference featured insightful talks, practical sessions, and engaging discussions, offering participants a deeper understanding of yoga’s timeless wisdom and its applications for lifestyle enrichment.



DAE National Yoga Conference at NISER

- **ITPA MHD, Disruption and Control Topical Group (ITPA-MDC-TG) Meeting at IPR**

IPR hosted the 44th Meeting of the International Tokamak Physics Activity Magnetohydrodynamics (MHD), Disruption and Control Topical Group (ITPA-MDC TG) during October 22-25, 2024. The meeting was attended both in-person and remotely through Videoconferencing. A total of 34 in-person participants – 28 from IPR/BARC and 6 from abroad, and 38 online participants from all ITER Partners joined the meeting. There were 42 presentations in total spread over 3.5 days, that included 3 special sessions – on VDE and Disruption modelling (5 presentations), on Optimization of Shattered Pellet Injection (SPI) for disruption and Runaway Electron (RE) mitigation (4 presentation) and on Disruption Prediction and Avoidance (9 presentations). Apart from these, there were 11 presentations on ITPA-MDC joint experiments and joint activities and 9 contributed presentations, which included 4 presentations from IPR (2 by faculties and 2 by senior Research Scholars) and one presentation from BARC on electromagnetic pellet injector development. All the presentations were of very high quality and there were intense discussions after each session, where local Indian participants also participated actively. The opening session of the meeting was dedicated to the Memory of Dr. Michael Lehnen, who passed away in June 2024 and was one of the deputy Chairs of the ITPA-MDC-TG. Presently, Dr. Indranil Bandyopadhyay from ITER-India, IPR is the Chair of the ITPA-MDC-TG from 2024-2026 and he also chaired this meeting. One of the main reasons of holding the ITPA MDC meeting in IPR was to facilitate a larger number of local participants from IPR to take part in the deliberations and it succeeded in that objective.



Participants of ITPA MHD, Disruption and Control Topical Group Meeting at IPR

- **Theme Meeting on Ultrafast Sciences (UFS)-2024 at NISER**

The DAE-BRNS 11th Theme Meeting on Ultrafast Sciences (UFS-2024) was held at NISER during November 28-30, 2024. The theme meeting covered a wide range of topics, including ultrafast/attosecond spectroscopy, light-matter interaction, nonlinear optics, photochemistry, and dynamics in chemical and biological systems. Other key themes included terahertz spectroscopy, novel ultrafast laser sources, plasmonics, and metrology, alongside multidimensional spectroscopy, and imaging. The meeting fostered valuable discussions, collaborations, and showcased cutting-edge research, marking a successful conclusion to UFS-2024.



Prof. H. N. Ghosh, Director, NISER addressing the participants of UFS-2024 (top);

Participants of UFS-2024 (bottom)

- **DAE-BRNS 10th Interdisciplinary Symposium on Materials Chemistry (ISMC - 2024) at BARC**

DAE-BRNS 10th Interdisciplinary Symposium on Materials Chemistry (ISMC-2024) was held during December 4-7, 2024 at DAE Convention Centre, Anushaktinagar, Mumbai. The symposium was jointly organized by Chemistry Division, BARC, and Society for Materials Chemistry (SMC). It was fully supported by Board of Research in Nuclear Sciences (BRNS). Padma Vibhushan Dr R. A. Mashelkar, Ex-Director General, Council of Scientific and Industrial Research (CSIR), New Delhi was the Chief-Guest of the function and delivered Keynote lecture on the topic, “Next Generation Innovations: From Best Practice to Next Practice.” There were more than 400 registered delegates from all over the country and a few international participants. During the ten scientific sessions held over a period of four days, eminent scientists from India and abroad gave talks which comprehensively covered a broad spectrum of activities relevant to Materials Chemistry including Nuclear materials, Nanomaterials, Materials for healthcare, Polymers and Soft matter, Materials for energy conversion and storage, Carbon based materials, Fuel cell materials, Thin films and surface chemistry, Magnetic materials, Catalysis, Chemical sensors, Organic and organometallic compounds, High Purity Materials, and Computational materials chemistry, etc. In addition, 280 posters were presented by young research scholars hailing from educational institutes all over India during four poster presentation sessions based on their research in different areas of materials chemistry. The symposium also included one evening lecture by Prof. A. K. Tyagi, Dean, HBNI on “Indian Nuclear Programme: Rich traditions and way forward.” All the scientific sessions were highly interactive and informative and covered different aspects of materials chemistry. The valedictory session of ISMC-2024 was held on 7th December 2024. Dr. A. C. Bhasikuttan, Associate Director, Chemistry Group, BARC graced the occasion and distributed best poster awards. Several delegates, invited speakers and student participants expressed their views and opinions regarding the symposium. The event has been described by the delegates as a high standard, well organized and highly successful scientific symposium.



Dignitaries releasing Conference proceedings during inaugural function of ISMC-2024

- **One-day workshop organised by ACTREC-TMC titled “From Idea to Impact”**

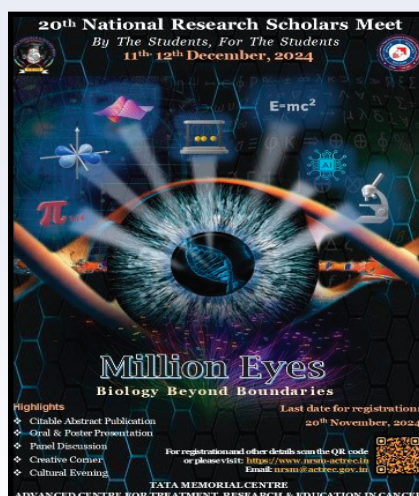
A one-day workshop was organised by ACTREC-TMC’s Intellectual Property Right Cell and ACTREC Alumni Association on November 25, 2024 under the leadership of Dr. Vikram Gota. The workshop emphasized the importance of protecting intellectual creations to safeguard moral rights, prevent misuse and maintain control. Key benefits of patent protection were discussed including stimulating research and development, enabling fair commercial practices, granting exclusive rights for 20 years and providing commercialisation opportunities through licensing and partnerships.



Flyer of the one-day workshop titled “From Idea to Impact” organised by ACTREC-TMC

- **20th National Research Scholars Meet organised by ACTREC-TMC**

20th National Research Scholars Meet was organised by the students of ACTREC-TMC between 11th-12th December 2024. The meet was titled “Million eyes: Biology beyond boundaries”. Many eminent speakers delivered their talks in the event such as Dr. L. S. Shashidhara, Director, NCBS, Bengaluru; Dr. C. S. Pramesh, Director, TMH, Parel, Mumbai, Dr. Sudha Rajamani, Professor, IISER Pune and so on. The scientific sessions were followed by poster sessions and cultural programme.



Flyer of the 20th National Research Scholars Meet “NRSM 2024” organised by ACTREC-TMC

Scientific Outreach Activities conducted by CIs/OCCs

- **Scientific Outreach Activities conducted by HRI**

During the period of July 2024 to December 2024, HRI conducted outreach activities by organizing academic visits for students of various schools and science colleges to HRI. During the academic visits, the students could meet researchers, see advanced scientific equipment, and observe the kind of work that goes into making important discoveries. The experience helped them understand the value of research and critical thinking, which can inspire them to pursue their careers in science and innovation.



One day Science outreach program in progress at HRI, October 9, 2024



Students of Govt. High School, Pratapur, during outreach activity at HRI, November 22, 2024

- **Scientific Outreach Activities conducted by IGCAR**

As a part of the celebration of the platinum jubilee year of DAE, IGCAR organized special industrial visits to IGCAR on Tuesday of every week for students from schools in and around Kalpakkam and Chennai. Since August 2024, 16 schools with a total of 726 students & 36 teachers have visited IGCAR as part of this outreach programme.



School students during outreach activity at IGCAR

- **Scientific Outreach Activities conducted by IPR**

During the period of July 2024 to December 2024, IPR organized academic visits to IPR and conducted outreach activities for students of various schools and science and engineering colleges all over India. IPR also organized workshops on plasma physics and plasma exhibitions at educational institutes all over India with an objective to create awareness about plasma and its applications among the students.



Students and teachers of Vidush Somany Institute of Technology and Research, Kadi during their visit to IPR, July 18, 2024



Students from Vishwakarma Government Engineering College, Chandkheda during their visit to IPR, October 15, 2024



Plasma Exhibition at Sir Pratap School, Idar, Gujarat, September 25-27, 2024



Workshop on Basic Plasma Physics at CPP-IPR Guwahati, Assam, September 27, 2024



Students from Sankerdeb Shishu Bidya Niketan during their visit to IPR, November 19, 2024

- **Scientific Outreach Activities conducted by NISER**

NISER conducted an outreach workshop for BoseStat@100 on October 18, 2024 celebrating the contributions of Satyendra Nath Bose to physics. The workshop was jointly organized by the Indian Physics Association (IPA), S. N. Bose National Centre for Basic Sciences (SNBNCBS), and NISER, and featured engaging talks on Bose-Einstein statistics, sessions on fundamental physics, and discussions on its applications. The event successfully inspired students, connected researchers and educators, and fostered enthusiasm for scientific discovery.



Glimpses of the outreach workshop for BoseStat@100 at NISER

Awards and Academic Honors Received by HBNI Faculty

1. Prof. U. Kamachi Mudali, VC, HBNI, has been conferred with the Gold Medal of Chirantan Rasayan Sanstha.
2. Prof. A. K. Tyagi, Dean, HBNI, has been awarded the prestigious Vigyan Shri Puraskar for 2024 by Govt. of India
3. Prof. S. M. Yusuf, BARC has been elected as a Fellow of The World Academy of Sciences (TWAS).
4. Prof. Shripad Dinanath Banavali, TMC has been awarded the prestigious QIMPRO Gold Standard Award 2024 in Healthcare by Qimpro Foundation, Mumbai.
5. Prof. Jyotirmayee Mohanty, BARC has been awarded DEVI AWARD-2024 in Science Category. The awards have been instituted by New Indian Express in New Delhi in December 2014 to pay tribute to women achievers from around the country. She has also been conferred with the “SMC Distinguished Woman Scientist Award-2024” by Society for Materials Chemistry for her outstanding contribution to Materials Chemistry.
6. Prof. Sukhendu Nath, BARC has been elected as a Fellow of the National Academy of Sciences, India (NASI).
7. Prof. Kathi Sudarshan, BARC has been elected as a Fellow of Maharashtra Academy of Sciences.
8. Prof. Musharaf Ali S. K., BARC has been elected as a Fellow of Maharashtra Academy of Sciences.
9. Prof. A. K. Ghosh, BARC has been elected as a Fellow of Maharashtra Academy of Sciences.
10. Prof. Shilpa Sawant, BARC has been conferred with Silver Medal of Society of Materials Chemistry.
11. Prof. S. N. Achary, BARC has been conferred with Silver Medal of Society of Materials Chemistry.
12. Dr. Seemita Banerjee, BARC has been conferred with Bronze Medal of Society of Materials Chemistry.
13. Dr. Adish Tyagi, BARC has been conferred with Bronze Medal of Society of Materials Chemistry and Chirantan Rasayan Sanstha. He has also been elected as Young Associate of Maharashtra Academy of Sciences.
14. Dr. Birija Sankar Patro, BARC has been inducted as an Associate Editor, Scientific Reports (Springer Nature) and Discover Oncology (Springer Nature) journals.
15. Dr. Santosh K. Gupta, BARC has been awarded MRSI Medal for 2024. He has also been inducted in the editorial board of Scientific Reports journal (Nature publishing) and Methods and Applications in Fluores-cence (IOP publishing).
16. Dr. Soumyaditya Mula, BARC has been awarded the Society for Materials Chemistry (SMC) Bronze Medal for 2024. He has been inducted in the editorial board of Scientific Reports journal (Nature publish-ing).


17. Dr. Celin Acharya, BARC has been elected as a Fellow of NASI in the field of Biochemistry, Biophysics, Biotechnology category for 2024.
18. Dr. Santosh Kumar, BARC has been elected as a Fellow of Maharashtra Academy of Sciences.
19. Dr. Rubel Chakravarty, BARC has been elected as a Fellow of Maharashtra Academy of Sciences.
20. Dr. Ashish Kumar Srivastava, BARC has received “Homi Bhabha Science and Technology Maanpatra 2024” from Department of Atomic Energy (DAE), India.
21. Dr. Amit Kunwar, BARC has received “Homi Bhabha Science and Technology Maanpatra 2024” from Department of Atomic Energy (DAE), India.
22. Dr. Mohit Tyagi, BARC has received “Homi Bhabha Science and Technology Maanpatra 2024” from Department of Atomic Energy (DAE), India.
23. Dr. Diptimayee Samantray, IGCAR has received “Homi Bhabha Science and Technology Maanpatra 2024” from Department of Atomic Energy (DAE), India.
24. Dr. Prabhat K. Singh, BARC has been selected for Chirantan Rasayan Sanstha (CRS) Silver Medal, 2024 and Chemical Research Society of India (CRSI) Bronze Medal, 2025. He has also been selected as a Council Member, ORCID Research Advisory Council (ORAC) for the period 2025-2027.
25. Prof. Manoj Kumar Yadav, HRI has been elected a Fellow of the National Academy of Science, India from Oct 2024.
26. Dr. Tisita Das, HRI has been conferred with “SMC Emerging Scientist Award-2024 by Society for Materials Chemistry.
27. Prof. S. Ningshen, IGCAR has been elected as a Fellow of the Indian Institute of Metals.
28. Dr. Ch. Jagadeeswara Rao, IGCAR has received the Best Metallograph Award from The Indian Institute of Metals at IIM-ATM 2024, held at Bengaluru during 20-22 November 2024 for presenting metallograph titled Bacterium shocked on Bacteriophage attack.
29. Dr. Deepak Kumar Gupta, IGCAR has received one of the Best Paper Award for his paper titled, “Aberration-free structured light in holographic optical tweezers,” presented at Second International Conference on Recent Trends in Applied Physics & Material Science (RAM-2024), held at Bikaner Technical Institute, Bikaner during November 15-16, 2024.
30. Dr. Aseem Mishra, HBCH & MPMMCC has been awarded by the Indian Society of Thyroid Surgeons for his efforts in promoting and disseminating thyroid surgical skills in Northern India. Dr. Aseem Mishra has also been honored with the “Most Trusted Head and Neck Surgeon” in Uttar Pradesh award for his leadership in the field of Head and Neck Surgery by the Golden AIM Awards and Dynergic Business Solutions.

31. Prof. Bedangadas Mohanty, NISER has been awarded the OTV's Odisha Citizens Award 2024 in the Education category. This recognition highlights his exceptional contributions to the field of education and his unwavering commitment to academic excellence.
32. Dr. Priyadarshi Chowdhury, NISER has been awarded the prestigious Mineralogical Society of America Young Scientist Award for 2025. She has also been selected as an associate of the Indian Academy of Sciences.
33. Prof. Himansu S Biswal, NISER has been inducted in the Editorial Advisory Board of The Journal of Physical Chemistry Letters for the period 2025-2027.
34. Dr. Bishnu P. Biswal, NISER has been selected as an Associate of the Indian Academy of Sciences 2024.
35. Dr. Manas Ranjan Sahoo, NISER has been awarded the INSA Associate Fellows 2024.
36. Dr. Amarendra Das, NISER has been recognized as the Times Icons of Odisha 2024.
37. Dr. Aritra Banik, NISER has been nominated as a member of the ACM India Council for the term spanning from July 1, 2024, to June 30, 2026.
38. Dr. Manjusha Dixit, NISER has been inducted in the Editorial Board of the journal BMC-Biology.
39. Prof. Nayana Majumdar, Senior Professor of SINP, has been featured as one of the 27 Indian women scientists in a book titled Women Shaping Scientific Frontiers: From Lab Coats to Leadership which offers an inspiring collection of 27 Stories of Indian Women Leaders in Physics and Engineering who have made significant contributions to science and technology.
40. Dr. Debasish Mondal, VECC has received "Aswini Kumar Rath Memorial Award" in Nuclear Physics by Indian Physics Association.
41. Dr. Tapan Kumar Rana, VECC has received "Homi Bhabha Science and Technology Maanpatra 2024" from Department of Atomic Energy (DAE), India.
42. Dr. Arindam Kumar Sikdar, VECC has received the "Young Achiever Award, 2024 (YAA-2024)" by Indian Physics Association for his work on experimental nuclear physics.
43. Dr. Jyoti Shankar Mishra, IPR has received Best Paper Presentation Award for his talk titled, "Application of cryogenics in developing pellet injectors for fueling and plasma control in magnetically confined fusion devices" presented at 29th National Conference on Cryogenics and Superconductivity (NCCS-29), held at Inter-University Accelerator Centre, New Delhi, during November 26 -29, 2024.

Awards Received by HBNI Students

1. Mrs. Anusree Dey, BARC has received the Best Young Investigator Award for her presentation titled, “Bromodomain protein 4 regulates radio resistance in breast cancer cells,” presented at the International Conference on “Developments in the Science of Oxidative Stress and Redox Medicine” organized by Society for Free Radical Research-India (SFRR-India), held at the DAE convention Centre, Anushaktinagar, during November 6 – 9, 2024.
2. Dr. Pooja Negi, BARC has received Best Thesis Award for her thesis titled, “Physiological and molecular insights into radiation induced salt tolerant mutant of sugarcane,” at the International Conference on “Developments in the Science of Oxidative Stress and Redox Medicine” organized by Society for Free Radical Research-India (SFRR-India), held at the DAE convention Centre, Anushaktinagar, during November 6 – 9, 2024.
3. Ms. Sanchita Ghosh, BARC has received Third Prize in poster presentation for her poster titled, “Synthesis of human serum albumin encapsulated [188Re] ReOx nanoparticles: a potential dual modal nanoagent for cancer theragnostic,” presented at the DAE-BRNS 10th Interdisciplinary Symposium on Materials Chemistry (ISMC- 2024), held at DAE Convention Centre, Anushaktinagar during December 4-7, 2024.
4. Shri D. Bola Sankar, IGCAR has received one of the Best Poster Award for his poster titled, “Development of an efficient method for the separation of 90Sr from the fuel dissolver solution and development of radionuclide generator for 90Y elution,” presented at DAE-BRNS 11th Biennial Symposium on “Emerging in Separation Science and Technology” (SESTEC-2024) held at HSNC University, Mumbai, during July 10 – 13, 2024.
5. Shri Abhinash Maharana, IGCAR has received one of the Best Poster Award for his poster titled, “Optimizing ReO₄⁻ (Surrogate for 99TcO₄⁻) sequestration: Unravelling multifaceted effects using surfactant free, synthesized-Zeolite Na-A,” presented at DAE-BRNS 11th Biennial Symposium on “Emerging in Separation Science and Technology” (SESTEC-2024) held at HSNC University, Mumbai, during July 10 – 13, 2024.
6. Mrs. S. Jayalakshmi, IGCAR has received one of the Best Poster Awards sponsored by The Journal of Physical Chemistry (A), ACS for her poster titled, “Understanding the complexation behavior of tri-n-alkyl phosphorotrithioate ligands with uranyl nitrate,” presented at DAE-BRNS Symposium on Current Trends in Theoretical Chemistry (CTTC-2024), held at DAE Convention Centre, Anushaktinagar, Mumbai, from September 26–28, 2024.
7. Ms. Geethika B. R., IPR has received one of the Best Oral presentation Award for her talk titled, “Anisotropic emission from laser produced aluminium plasma,” presented at 10th Plasma Science Society of India - Plasma Scholars Colloquium (PSSI-PSC 2024), held at Indian Institute of Technology, Delhi, during July 4 – 6, 2024.

8. Ms. Komal, IPR has received one of the Best Poster Award for her poster titled, “Investigating the effect of impurity seeding on the magnetic and electrostatic edge fluctuations in ADITYA-U tokamak” presented at 10th Plasma Science Society of India-Plasma Scholar’s Colloquium (PSSI-PSC2024), held at Indian Institute of Technology, Delhi, during July 4 – 6, 2024.
9. Shri Souvik Mondal, IPR has received Best Poster Award for his poster titled, “The dynamics of blob merging in the tokamak scrape-off layer region,” presented at 8th Asia-Pacific Conference on Plasma Physics (AAPPS-DPP 2024), held at Malacca, Malaysia, during November 3-8, 2024.
10. Shri Aher Jayesh Bhausaheb, Int. M.Sc., NISER has received the “Biointerphase Best Poster Award” at the 6th Biomembranes Symposium 2024, organized by Indian Institute of Science, Bengaluru during July 11 – 13, 2024.
11. Shri. Amit Halder, NISER has received Outstanding Poster Presentation Award by the Ultrafast Optical Phenomena Technical Group for his poster presented at Frontiers in Optics and Laser Science (FiO + LS) Conference held at Denver, USA during September 23-26, 2024.
12. Ms. Faheema Nazar, Int. M.Sc., NISER won the ‘Popular Talk Award’ for her MS thesis work titled, “How gut microbiome can aid niche expansion in insects,” presented at Science Undergraduate Research Conference-2024 held at Azim Premji, Bengaluru during December 6 – 7, 2024.
13. Shri Arijit Sen, VECC has received one of the Best Presentation Awards for his work on studying nuclear shell effects and the quasi-fission dynamics of super heavy elements presented at 39th Young Physicists’ Colloquium -2024 (YPC-2024) organized by Indian Physical Society at Saha Institute of Nuclear Physics during August 22-23, 2024.



HOMI BHABHA NATIONAL INSTITUTE
achieves

1 **Physical Sciences** **2** **Overall**

nature index

Nature Index 2024 India Ranking (May 2023 - April 2024)

Congratulations to all CIs / OCCs of HBNI !

Link to Nature Index: www.nature.com/nature-index/institution-outputs/india/homi-bhabha-national-institute-hbni/5139072034d6b65e6a001ff4

www.hbni.ac.in | facebook.com/hbni.connect | [@hbniwebinar2548](https://www.youtube.com/@hbniwebinar2548) | t.me/joinchat/U9iTG6cNEGwfEPQ





**HBNI Ranked 6 in
Research Institution Category**

**HBNI Ranked 16
in University Category**



**HBNI Ranked 27
in Overall Category**



Core Values of Homi Bhabha National Institute





Bhabha Atomic Research Centre
(BARC)



Indira Gandhi Centre for Atomic
Research (IGCAR)



Raja Ramanna Centre for Advanced
Technology (RRCAT)



Variable Energy Cyclotron Centre
(VECC)



Saha Institute of Nuclear Physics
(SINP)



(An aided Institute of the Department of Atomic Energy and a
Deemed to be University u/s 3 of UGC Act 1956)

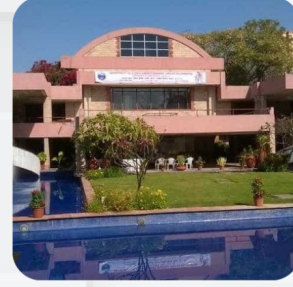
www.hbni.ac.in



Institute of Mathematical Sciences
(IMSc)



Institute of Physics
(IoP)



Institute for Plasma Research
(IPR)



Harish-Chandra Research Institute
(HRI)



Tata Memorial Centre
(TMC)



Mahamana Pandit Madan Mohan Malaviya
Cancer Centre & Homi Bhabha Cancer Hospital
(MPMMCC & HBCH)



National Institute of Science
Education and Research (NISER)

होमी भाभा राष्ट्रीय संस्थान Homi Bhabha National Institut

ट्रेनिंग स्कूल परिसर / Training School Complex

अणुशक्तिनगर, मुंबई, (भारत) / Anushaktinagar, Mumbai- 400094, India

www.hbni.ac.in / Email ID : offhbni@hbni.ac.in

Phone No: 022-25597699, 022-25597625