

## International Yoga Day

International Yoga Day is observed every year on June 21 to raise awareness about this ancient practice and to celebrate the physical and spiritual prowess that yoga has brought to the world. HBNI celebrated 9th International Yoga Day on June 21, 2023. with great enthusiasm. It was attended by functionaries, staff members of HBNI and Human Resource Development Division (HRDD), BARC, as well as Trainee Scientific Officers, Training School, BARC and students of HBNI.

The event began with Smt. Bharati Suvarna, Administrative Officer-III, HBNI welcoming the guest of honors, Dr. Vijay Kumar, Shri P. K. Pillai, and Smt. Bindu Jayprakash, eminent yoga instructors from Yoga Circle, BARC Staff Club, Anushaktinagar and the gathering. Prof. A. K. Dureja, Head, HRDD and Associate Dean, HBNI then addressed the gathering and gave a brief introduction about the Yoga Day and the importance of incorporating yoga into daily life.

Warm up exercises were taken and all the participants practiced and performed sitting and standing Asanas and Pranayama. Importance of these were explained simultaneously by yoga instructors. The yoga instructors also provided detailed explanations of each pose and offered guidance on precautions to be taken. The session lasted for over an hour witnessing active participation and engagement from all the participants.

The celebration concluded with a vote of thanks by Prof. P. C. Selvin, Registrar, HBNI



*VC, HBNI with the participants present on the occasion of International Yoga Day celebration at HBNI*

### Lecture Series on Life Skills by TISS Faculty

Science and technology in today's world are not limited to one discipline or field and require extensive collaboration from multiple disciplines. DAE presents bright youngsters with challenging opportunities to excel in the forefront areas of research and development of cutting-edge technologies and science. BARC TS has started the prestigious 'Lecture Series on Life Skills' to support the advancement of exceptional professionals who add value to the organization and society.

Producing professionally groomed individuals with expertise in scientific knowledge and proficiency in soft skills is a crucial task. The transition from college to professional life is a significant one for many trainees at BARC Training School. The expectations and responsibilities of the workplace are considerably different from those of college. Many graduates are completely unaware of unspoken nuances and social norms, making it extremely challenging and sometime traumatic to adjust to a professional environment. The "Lecture Series on Life Skills" helped trainees achieve professional competencies by fully understanding and implementing their behavioural and soft skills.

The lecture series, conducted in four batches from January 5 to March 15, 2024, and March 11 to March 22, 2024, had participation of 131 trainees across 12 disciplines of science and engineering. Presented by TISS faculty—Prof. Nasreen Rustomfram, Prof. Saigita Chitturu, and Prof. Shamim Modi — the series aimed to enhance professional grooming through activity-based learning and real-time business simulations. The training sessions were marked by curiosity, active participation, and high energy among the trainees. The training covered communication skills, presentation skills, creativity and innovation, time management, and work ethics. Trainees participated enthusiastically in group activities and presentations, with the program's structure, content, and delivery method receiving positive feedback. The sessions boosted trainees' self-assurance and confidence in interpersonal skills. Confidence was built by clearly presenting ideas and communicating with impact, and the most appreciated aspect was the ethical leadership that will bring value to the organization. Participants thoroughly enjoyed discussing and presenting their ideas with enthusiasm.



#### 14. Outreach Activities, Sports Activities, and Other Events (Including yoga, physical fitness, health, and hygiene activities):

Outreach activities of Institute for Plasma Research for the period between April 2024 – December 2024 are summarized as below

##### Off-Campus Events (Plasma Exhibitions)

##### April 2024

- The off-campus exhibition events had been organized by IPR Outreach Division at **Gitanjali Institute of Technical Science, Udaipur**, Rajasthan in the month of April'24 and as National Technology Day, Science City, Ahmedabad. The event in Udaipur - The Fourth State of Matter, held from **15th to 19th April, 2024**. This program was a part of IPR's scientific outreach activity in various states of India under the auspices of "70 years of DAE" celebrations. The event was inaugurated by the Director of GITS, Dr. Narendra Singh Rathore. About 60 students of 1<sup>st</sup> Year Engineering course participated as volunteers. Over 3000 students from over 48 schools and colleges in Udaipur visited the exhibition. A quiz program was also conducted for school students and Tokomak assembly competition was conducted for the volunteers.



##### May 2024

- Institute for Plasma Research (IPR), Gandhinagar (Gujarat), in association with **Gujarat Science City, Ahmedabad and GUJCOST** celebrated the National Technology Day by organizing a series of events at the Gujarat Science City, Ahmedabad on **11th May, 2024** with the theme "**Technology for Viksit Bharat**". This program is a part of IPR's scientific outreach activity under the auspices of "70 years of DAE" celebrations. The event was inaugurated by Dr. Narottam Sahoo, Advisor and Member Secretary, GUJCOST. The programme consisted of an exhibition on plasma, its applications as well as introductory talks on plasma for visiting students and training program on plasma, its applications and nuclear fusion for science teachers, students and public. UG students of MG Science College Ahmedabad participated as student volunteers for the exhibition. Over 1500 people visiting the science city also visited the exhibition.



July 2024

- Institute for Plasma Research (IPR), Gandhinagar (Gujarat), in association with Smt. P.D.Shroff Sanskardeep Vidhyalaya, Ankleshwar (Gujarat) organized an exhibition on Plasma, "The Fourth State of Matter" during **09-11 July, 2024**. This program is part of IPR's scientific outreach activity in various states of India under the auspices of "70 years of DAE" celebrations. The event was inaugurated by the district collector, Mr. Tushar Sumera. The programme consisted of an exhibition on plasma, its applications as well as introductory talks on plasma for visiting students and training program on plasma, its applications and nuclear fusion for science teachers. Thirty two students of 9th and 10th standard from the host school were trained by IPR staff to explain the various exhibits to visiting public. Over **1700** students and teachers from over **17** schools and colleges in Ankleshwar and Bharuch visited the exhibition.





## August 2024

- Institute for Plasma Research (IPR), Gandhinagar (Gujarat), in association with **Parvathaneni Brahmaya Siddhartha College of Arts & Science, Vijayawada** (Andhra Pradesh) organized an exhibition on Plasma, "The Fourth State of Matter" during **05-09 August, 2024**. This program is part of IPR's scientific outreach activity in various states of India under the auspices of "70 years of DAE" celebrations. The programme consisted of an exhibition on plasma, its applications as well as introductory talks on plasma for visiting students and training program on plasma, its applications and nuclear fusion. Seventy two students from the host college were trained by IPR staff to explain the various exhibits to visiting public. Over **5000** students and teachers from over **72** schools and colleges in and around Vijayawada visited the exhibition.





- Institute for Plasma Research (IPR), Gandhinagar (Gujarat), in association with Bhavan's Vivekananda College, Secunderabad (Telangana) organized an exhibition on Plasma, "The Fourth State of Matter" during **12-14 August, 2024**. This program is part of IPR's scientific outreach activity in various states of India under the auspices of "70 years of DAE" celebrations. The programme consisted of an exhibition on plasma, its applications as well as introductory talks on plasma for visiting students and training program on plasma, its applications and nuclear fusion. **76** students from the host college were trained by IPR staff to explain the various exhibits to visiting public. Over **1750** students and teachers from over **19** schools and colleges in and around Secunderabad visited the exhibition





- Institute for Plasma Research (IPR), Gandhinagar (Gujarat), in association with Mukтажivan English School, Maninagar, Ahmedabad (Gujarat) organized an exhibition on Plasma, "The Fourth State of Matter" during **21-23 August, 2024**. This program is part of IPR's scientific outreach activity in rural areas across Gujarat under the auspices of "70 years of DAE" celebrations. The event was inaugurated by the **Director, Mukтажivan group of Education**. The programme consisted of an exhibition on plasma, its applications as well as introductory talks on plasma for visiting students and training program on plasma, its applications and nuclear fusion. 32 Students of 11th and 12th standard from the host school were trained by IPR staff to explain the various exhibits to visiting public. Over **1200** students and teachers from nearby schools visited the exhibition.





September 2024

- Institute for Plasma Research (IPR), Gandhinagar (Gujarat), in association with Sir Pratap School Idar (Gujarat) organized an exhibition on Plasma, "The Fourth State of Matter" during **25-27 September, 2024**. This program is part of IPR's scientific outreach activity in various states of India under the auspices of "70 years of DAE" celebrations. The programme consisted of an exhibition on plasma, its applications as well as introductory talks on plasma for visiting students and training program on plasma, its applications and nuclear fusion for school and college students and teachers/faculty. Over **2000** students and teachers from over **22** schools and colleges in Idar visited the exhibition.



October 2024

- Institute for Plasma Research (IPR), Gandhinagar (Gujarat), in association with **Noble University, Junagarh (Gujarat)** organized an exhibition on Plasma, "The Fourth State of Matter" during **08-10 October, 2024**. This program is part of IPR's scientific outreach activity in various states of India under the auspices of "70 years of DAE" celebrations. The programme consisted of an exhibition on plasma, its applications as well as introductory talks on plasma for visiting students and training program on plasma, its applications and nuclear fusion for school and college students and teachers/faculty. Students from the host school were trained by IPR staff to explain the various exhibits to visiting public. Over **4450** students and teachers from over **31** schools and colleges in and around Junagarh visited the exhibition



- The Outreach Division organized on 13-9-2024 an **induction programme** for the new recruits (TO-C, ITSO and SA-B) who joined on or after January 2024. The new recruits were informed about their responsibilities and obligations as per IPR's administrative rules & procedures which would include matters related to leave, attendance, conduct, pension and other general administrative matters to be followed by the staff. The speakers were

Dr. Paritosh Chaudhury

Mr. Gattu Ramesh

Mr. Niranjana Vaishnav, CAO

Mr. Tejas Parekh

Visit to IPR labs (Aditya, SST1, Neutronics, robotics & remote handling, ITER India labs) were also organized





- The Department of Atomic Energy (DAE) has significantly contributed to numerous national and international programs over the past seven decades. To honour these achievements and chart a course for future advancements, DAE organized its inaugural **Conclave from October 22-26, 2024, at National Institute of Science Education and Research (NISER) Bhubaneswar** as part of its Platinum Jubilee Celebrations. This landmark event brought together experts and participants from all DAE units and its aided institutions, offering a vibrant platform to showcase their scientific and

technological accomplishments. The institute actively participated in the Conclave, presenting its cutting-edge research and developmental activities through five posters and 16 videos, highlighting its contributions to advancing plasma science and technology. Additionally, many models were also presented by the IPR Outreach Division, further enhancing the interactive experience at the event. Director IPR has delivered a comprehensive talk, shedding light on its pioneering work and vision for the future. The following five posters were presented from IPR that included those from IPR Outreach Division:

1. Plasma Pyrolysis Technology for Safe Disposal of Organic Waste
2. AI & High-Performance Computing for Scientific Research & Medical Diagnosis
3. 14 MeV Neutron Generators: Bridging the Gap between Research
4. Fundamental Plasma Research Activities at IPR
5. TOKAMAK: A Pathway to Nuclear Fusion

This event underscored DAE's enduring legacy and its commitment to fostering innovation and collaboration across its institutions, paving the way for ground-breaking advancements in science and technology. The Outreach division of IPR also displayed their poster



## November 2024

- IPR Gandhinagar participated in "**Amalthea 2024**", Annual Technology exhibition organized by Indian Institute of Technology (IIT), Gandhinagar during **9-10 November 2024**. Amalthea is a student-run annual technical summit. The event consisted of several tech exhibitions including robotics, AI and mobility based innovations. Several industry and national R & D institutions participated in the event. IPR exhibited working and static models related to Tokamak, ITER, Wiggler Experiment, Plasma for Grooming and Ion thruster. Around **800** visitors from schools, colleges and industry visited IPR exhibition stall during the event.



- Plasma Exhibition was organized in **Dr. B.C. Roy Engineering College (BCREC), Durgapur from 1 Nov'24 to 14 Nov'24**. The event was organized by Dept. of Basic Science and Humanities, BCREC in collaboration with IIPC, BCREC and The Viswagandha Society, Durgapur, whose mission is to enrich the scientific minds of Young Bengal through interfaces with Scientific Organizations of the country. The Inaugural Session comprised collective watering of sapling by distinguished guests, followed by a felicitation ceremony where the Principal BCREC, Dr. Sanjay S Pawar, Chief Advisor, BCREC Group of Institutions, Dr. Saikat Maitra, HOD BSH, Dr. Saurav Ranjan Das, HOD ECE, Dr. Mrinmoy Chakraborty, Shri and Madam Kabiraj did the honours. About 640 students and 70 teachers from different educational institutes attended the exhibition with great zeal.



- Plasma Exhibition was organized in **Rani Durgavati Vishwavidyalay (RDV)** Jabalpur by IPR Outreach. Member of Parliament (Jabalpur) Shri Ashish Dubey, Inaugurated the exhibition. The Vice Chancellor of RDV Prof. Rajesh Kumar Verma presided over the event, the faculty members of the Department Physics and Electronics of RDV (Prof. Rakesh Bajpai, Dr. R. K. Dubey, Dr. Rinkesh Bhatt, Dr. D. K. Pandey, Dr. (Mrs.) Pallavi Shukla, University staff members, faculty members of local degree and PG colleges, students and teachers of local schools, and foremost the science enthusiasts and volunteers among the students of UG & PG science courses of RDV. The overwhelming response of enthusiastic school and college students while going through the exhibitions was very pleasing, satisfying and encouraging. About **1600 students and teachers from about 30 colleges** and schools and members of **Ordinance Factory Jabalpur** visited the exhibition, which had both static and working models and resource materials and attended the lectures delivered by the members of Outreach Division.









- Institute for Plasma Research (IPR) Gandhinagar (Gujarat) in association with Shri Sardar Patel And Swami Vivekanand School (Ahmedabad) organized an exhibition on plasma, "The fourth state of matter" during **28th & 29th November 2024**. This program is part of IPR's scientific outreach activity in various states of India under the auspices of 70 years of DAE Celebrations. **The event was inaugurated by Shri Vadibhai Patel (ex. principal of GLS college Ahmedabad) and their past student Shri Deven Mistry and Shri Ajaybhai chokshi Managing Director of Shri Vivek Education Trust.** About 2200 students and teachers visited the exhibition and quenched their curiosities on plasmas.





## December 2024

- For the first time a 2-day Hands-on **Basic Science Camp** for School students from class 10<sup>th</sup> to 12<sup>th</sup> was conducted by Outreach Division on **7th and 8th Dec 2024** (Sat & Sun) at Outreach Hall, IPR. The theme for this hands-on camp is **Electricity, Electromagnetism and Electromagnetic Induction**. For the first camp, the children of IPR staff were invited. 22 students registered and 20 students participated on both the days. The students were provided with practical booklet, writing materials, brief explanation about each experiment. The experiments were conducted in four half-day sessions supervised by scientists of IPR: Mr. Sunil Belsare, Mr. Prakash Parmar, Dr. Jyoti Sankar

Misra, Ms. Pramila, Ms. Praveena, Ms. Minsha Shah, Mr. Deepak kumar, Mr. Abhishek, Mr. Rahul Kumar, Mr. Pritesh Kumar Ray, Mr. Saurav kumar, Ms. Priyanka Patel and members from Outreach Division: Dr. Nirav Jamnapara, Mr. Manu Bajpai, Mr. Narendra Chauhan, Mr. Rahul Vishwkarma, Mr. Anand Kumar and Mr. Gattu Ramesh Babu. Special thanks to Mr. Dasharath Sonara and Ms. Aneesh for developing superconducting and temperature dependency experiment for this science camp.





- Plasma Exhibition in the 39<sup>th</sup> National Symposium on Plasma Science and Technology (Pandit Deendayal Energy University – PDEU) was organized. It was inaugurated by Shri K. N Vyas (Ex-Secretary, DAE). IPR-Director Dr. Shashank Chaturvedi was the guest of honour. Nearly 400 students and 20 teachers visited exhibition.





**Annual Report**  
and  
Audited Statement  
of Accounts  
**2023– 24**



**Institute of Physics**

**Bhubaneswar**



Navodaya Vidyalaya (JNV), Konark, Puri district. Prof. K. K. Nanda, Director; Prof. P. K. Sahu, Registrar; Dr. S. N. Sarangi, Convener, Dr B. Mallick and other officials were present. On the eve of the Jan Bhagidari events, two science outreach programmes were conducted at E-Tech Residential Degree College, Dhenkanal on 10th April 2023 and at Salipur Autonomous College, Salipur on 15th April 2023. Prof. K. K. Nanda, Director, Dr. S. N. Sarangi, Convener along with Dr B. Mallick, IoP delivered a series of lectures on "Future Sources of Energy" and "Nuclear Energy" that is in accordance with the theme given to IoP by 3rd G-20 Education Working Group (EWG) Meeting Committee. Moreover, quiz competitions were organized at E-Tech Residential Degree College, Dhenkanal and Salipur Autonomous College, Salipur aiming the Jan Bhagidari concept among the students. Apart from these, a Seminar was arranged "Climate Change" by Mr. Sidhanta Das, Retd. IFS on 13th April, 2023 and a webinar on the "Magnus Effect" delivered by Prof. Sanjay Mittal, Department of Aerospace Engineering, IIT Kanpur on 20th April 2023. Two days Official Language Skill Development Programmes were also conducted at IoP, Bhubaneswar for the Rajbhasa students of Ravenshaw and Rama Devi Universities on 19th and 20th April 2023. IoP conducted a Book Exhibition on the theme "Science for Society". Faculties, staff members, scholars, students from Utkal University and the Director of IoP attended the program and witness the activities of the Jan Bhagidari program and explore the Book Exhibition.

The month-long program witnessed many other "Jan Bhagidari" programmes like Quiz Competitions, Drawing Competitions, Rangoli competitions, various sports events, cultural events like the Tribal Dance, Odissi dance, Sambalpuri dance, etc., Tree Plantation and Swachhata Aviyan inside as well as outside the Campus, viz. Saptasajya and Kapilash Hills of Dhenkanal district and Chausathi Yogini of Hirapur, Khordha district including Chandrabhaga Beach, Puri district. The programme concluded on 22nd April 2023 with a mega event on "Science Model Contest" where students of different schools and colleges participated followed by a valedictory session with prize distribution. One of the key events was the cultural event performed by underprivileged boys and girls. These events were part of IoP's efforts to promote the public participation and ownership during India's G20 Presidency.

### **Schedule of "22 Days G-20 Jan Bhagidari Event"**

<b>Day One (01.04.2023)</b>	Quiz Competition at JNV, Konark, Dist.-Puri / Swachha Aviyan at Chandrabhaga, Konark ( S. N. Sarangi & B. K. Mishra)
<b>Day Two (02.04.2023)</b>	Cultural Programme by IOP Children (S.N. Sarangi, B.Mohanty, R. Mohapatra, J.Khan)
<b>Day Three (03.04.2023)</b>	Food Festival with special focus on Millets, (S.L.Das, L. Sahoo)
<b>Day Four (04.04.2023)</b>	Cyclothan, (S.N.Sarangi, R. Mohapatra, B.K.Mishra, B. Behera)
<b>Day Five (05.04.2023)</b>	Drawing Competition, (A.Kujur, R. Mohapatra, P.K.Senapati)
<b>Day Six</b>	Essay/Debate Competition,

<b>(6.04.2023)</b>	(A.Kujur, R. Mohapatra, P.K.Senapati)
<b>Day Seven (7.04.2023)</b>	Walkathon, (S.N.Sarangi, B.K.Mishra, B. Behera, B.K. Dash, R. Mohapatra)
<b>Day Eight (8.04.2023)</b>	Swachha Aviyan, IOP (MV Vanjeeswaran, R.Mohapatra, G. Pradhan)

<b>Day Nine (9.04.2023)</b>	Swachha Aviyan at Saptasajya and Kapilash (B.Mohanty, J.Khan)
<b>Day Ten (10.04.2023)</b>	Science Outreach and Quiz Competition program at ET-Tech Residential College (S.N.Sarangi, B.K.Mishra)
<b>Day Eleven (11.04.2023)</b>	Yoga Camp & Book Exhibition at IOP (MV Vanjeeswaran, R.Mohapatra)
<b>Day Twelve (12.04.2023)</b>	1) Book Exhibition – I (Basudev Mohanty, A. Kujur) 2) Essay, drawing, cultural programme by Slum children (R. Mohapatra, B. Behera, B.K. Dash)
<b>Day Thirteen (13.04.2023)</b>	Webinar on Climate Change (Prof. D. Samal)
<b>Day Fourteen (14.04.2023)</b>	Cultural Program-Tribal Dance (B.Mohanty, J.Khan)
<b>Day Fifteen (15.04.2023)</b>	Science Outreach Program and Quiz competition at Salipur College, Dist.-Cuttack (S.N.Sarangi, B.K.Mishra)
<b>Day Sixteen (16.04.2023)</b>	1) Volleyball Match (S. K. Choudhury) and 2) Rangoli Competition ( R. Mohapatra & L. Sahoo)
<b>Day Seventeen (17.04.2023)</b>	Tree Plantation in IOP Campus (MV Vanjeeswaran, R.Mohapatra, G. Pradhan)
<b>Day Eighteen (18.04.2023)</b>	Quiz Competition for IOP Campus children (Basudev Mohanty, B.K. Dash)
<b>Day Nineteen (19.04.2023)</b>	Seminar on Official Language Skill Development G20 (M. Siddhabhatti, B.Behera)
<b>Day Twenty (20.04.2023)</b>	1) Hindi Essay competition on G20 (M. Siddhabhatti, B.Behera) 2) Webinar on Magnus Effect (Prof. D. Samal)
<b>Day Twenty-one (21.04.2023)</b>	1) Celebration of Civil Service Day Programme at Institute of Physics and 2) Swachha Aviyan at Chausathi Yogini Tample, Near Bhubaneswar.
<b>Day Twenty-two (22.04.2023)</b>	Science Model Contest and Valedictory Function (B. Mallick, B.K. Dash)



# GLIMPSE OF G-20 JAN BHAGIDARI EVENT



IOP G-20 Janbhagidari Activities are on Argus News and Sambad Daily



Swachha Aaviyan at Chandrabhaga



Quiz competition at JNV, Konark



Food Festival at IOP



Cylothan at IOP



Drawing Competition at IOP



Essay Competition at IOP



Walkathan at IOP



Science Outreach Program at E-Tech College Dhenkanal



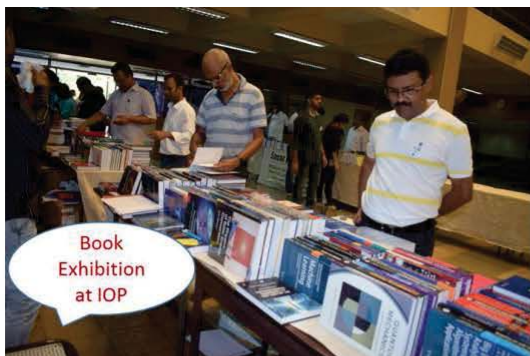
Swachha Aaviyan at IOP



Yoga at IOP



Quiz Competition at E-Teach College, Dhenkaanal



Book Exhibition at IOP



Swachha Aaviyan at IOP



Swachha Aaviyan at Saptasajya



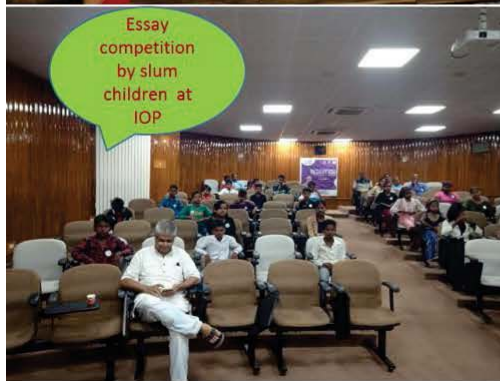
Drawing Competition by Slum Children at IOP



Science Outreach Program at Salipur College



Quiz completion at Salipur College



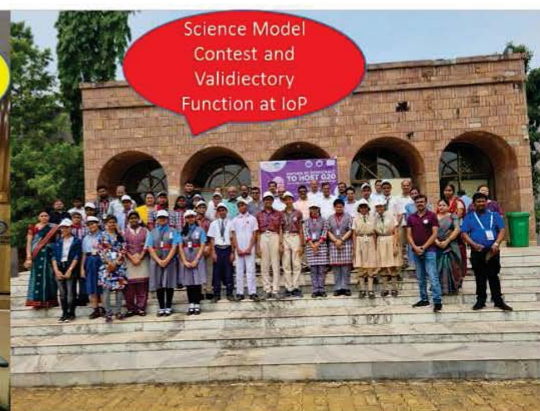
Essay competition by slum children at IOP



Cultural Program at IOP



Cultural Program at IOP



Director, IOP - Prof K. K. Nanda and Nodal Officer Dr. S. N. Sarangi at G-20 Meeting, IMMT, Bhubaneswar



## Events and Activities

### FIRE SERVICE WEEK

On April 14, NISER celebrated Fire Service Day, followed by a weeklong series of events from April 14 to 20. These activities included poster presentations, essay and slogan writing competitions, fire safety training, emergency evacuation drills, and informative seminars. The events raised awareness and honoured the courageous efforts of firefighters. The theme for this year's Fire Service Week was **"Awareness in Fire Safety for Growth of National Infrastructure" (AGNI)**.



### HOMI BHABHA AND VIKRAM SARABHAI SEMINAR HALL

NISER recently expanded its infrastructure with the introduction of two state-of-the-art seminar halls named after renowned scientists Homi Jehangir Bhabha and Vikram Ambalal Sarabhai. These halls were inaugurated on April 27, 2023. They stand as a testament to our commitment to cultivating intellectual discourse and collaborations, showcasing modern design and advanced audio-visual systems that enrich presentations by enabling lively interactions. The Homi Bhabha and Vikram Sarabhai Halls are intended to facilitate the organization of both national and international conferences and workshops.

### WORLD NO-TOBACCO DAY

In observance of World No-Tobacco Day on May 31, 2023, Tata Memorial Centre, Mumbai, and NISER jointly organised a virtual conference. This event encompassed a pair of engaging and insightful presentations. The first talk, **"Effects of Tobacco on Health,"** was delivered by **Dr. Arjun Singh**, a head and neck surgeon at Tata Memorial Centre, Mumbai. The second lecture, **"Tobacco Quit Line Centre,"** was presented by **Dr.**

**Suvarna Gore**, a Senior Project Manager cum Trainer at TMC, Mumbai.

### WORLD ENVIRONMENT DAY

On June 14, 2023, the NISER community united to commemorate World Environment Day by embarking on a more sustainable and vibrant future. A tree-planting drive was carried out across the campus, underscoring the commitment to preserve and safeguard the natural surroundings.



### INTERNATIONAL DAY OF YOGA

The grand celebration of the 9th International Day of Yoga was celebrated on June 21st, 2023 at our community center. The International Day of Yoga is an auspicious occasion that highlights the immense benefits of practicing yoga in our daily lives. It serves as a reminder of the holistic approach to well-being, both physically and mentally, that yoga brings forth. NISER conducted various yoga sessions, pranayama etc in which the faculty members, staff, family members, neighbours and students of the institute participated with all enthusiasm. NISER had followed the general practice guideline and other information provided by the Government of India.





## INDEPENDENCE DAY CELEBRATION

NISER commemorated the 77th Independence Day with a series of vibrant and meaningful activities. The day commenced with a dignified flag hoisting ceremony, symbolizing the institute's respect for the nation's heritage and freedom. Following this, a lively cultural program unfolded, showcasing the diverse talents of NISER students and fostering a sense of unity and celebration. In alignment with the institute's commitment to environmental responsibility, the NISER community actively participated in a collective tree-planting initiative. This endeavor not only contributed to the greenery of the campus but also emphasized the importance of sustainability and ecological consciousness. The festivities reflected the institute's commitment to sustainability, marking a holistic and memorable Independence Day observance.

## OBSERVANCE OF SADBHAVANA DIWAS

In honour of the birth anniversary of late Prime Minister Shri Rajiv Gandhi, the NISER community solemnly observed Sadbhavana Diwas on August 18. The community took the Sadbhavana Diwas Pledge which, was administered by the director at the Pathani Samanta Auditorium.

## SCIENTIFIC WRITING & PUBLISHING WORKSHOP

In a collaborative effort, the Central Library, NISER, and Springer Nature convened an Author Workshop titled "Scientific Writing & Publishing" on August 25, 2023. Attendees included faculty members, scientific officers, research scholars, and students from Integrated MSc (4th Year & 5th Year). **Ms. Swati Meherishi**, the Editorial Director at Springer Nature, delivered the keynote address.

## FOUNDATION DAY

The 14th Foundation Day was celebrated on 6th September, 2023. **Prof. P. Sreekumar**, Director, Manipal Center for Natural Sciences, Manipal Academy of Higher Education was invited as the Chief Guest on this occasion and delivered a talk on "**Technology as an Enabler in Scientific Pursuits of Space**" on 6th September 2023.



## RAJBHASA HINDI DIWAS CELEBRATION

To highlight the significance of Hindi, various programmes and competitions were conducted at the institute during the Official Language Hindi Fortnight from September 14 to September 29, 2023. The institute witnessed active participation from students, staff, and faculty members in all the events. Additionally, a Hindi Book Exhibition was curated by the Central Library on the occasion of Hindi Diwas, providing an opportunity for all Hindi readers to explore and benefit from the collection.

## SCIFINDER-N TRAINING SESSION

The Central Library, NISER, orchestrated an exhilarating Training Session on SciFinder-n for scholars and faculty from the School of Chemical Sciences and School of Biological Sciences on October 6, 2023. **Dr. Nabin Sarkar**, Customer Success Specialist from ACSI India Pvt. Ltd., delivered the keynote address.

## GRAMMARLY TRAINING SESSION

The Central Library, NISER, and Total Library Solutions (India) Pvt. Ltd. united to host a dynamic Training Session on Grammarly on October 13, 2023. This engaging event catered to faculty members, staff, research scholars (PhD & Integrated MSc-PhD), and Integrated MSc students (4th and 5th year) from NISER.

## VIGILANCE AWARENESS WEEK

The Vigilance Awareness Week was observed from October 30 to November 5, 2023. The observance was initiated with a pledge-taking ceremony on October 31. Our director led the administration of the pledge during this event, which was attended by the staff and faculty members, highlighting our dedication to maintaining integrity and combating corruption.

## OBSERVANCE OF RASHTRIYA EKTA DIWAS

In honour of the birth anniversary of Shri Sardar Vallabhbhai Patel, widely recognised as the 'Iron Man of India,' the NISER community passionately observed National Unity Day on October 31, participating in the Rashtriya Ekta Diwas Pledge.



## CYBER SECURITY AND RESPONSIBLE USE OF SOCIAL MEDIA

On January 3, 2024, NISER's Computer Centre hosted a talk on "Cyber Security and Responsible Use of Social Media," featuring **Shri S. K. Priyadarshi**, IPS Commissioner of Police (Bhubaneswar Cuttack), and **ACP Ms. Anjana Tudu**. They offered crucial insights into digital security and responsible social media use, equipping attendees with key knowledge for safe digital navigation.



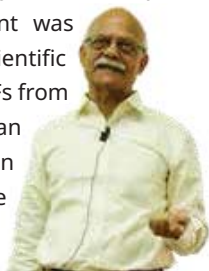
## CONDUCT RULES AND THE RIGHT TO INFORMATION (RTI)

On January 18, 2024, NISER hosted a training session on "Conduct Rules and the Right to Information (RTI)" led by **Mr. G. Venkatesan**, Director of ATI, Mumbai. The session aimed to enhance staff and faculty understanding of conduct regulations and RTI procedures, providing essential knowledge for effective navigation and adherence to best practices.



## SECRETS OF GETTING PUBLISHED IN HIGH-IMPACT-FACTOR JOURNALS AUTHOR WORKSHOP

The Central Library, NISER, and Wiley joined forces to present an Author Workshop titled "Secrets of Getting Published in High-Impact-Factor Journals" on January 19, 2024. This captivating event was tailored for Faculty Members, Scientific Staff, Research Scholars, and PDFs from NISER. **Dr. Yateendra Joshi**, an esteemed Academic Publication Trainer, took center stage as the keynote speaker.



## REPUBLIC DAY CELEBRATION

NISER embraced the zest of India's 75th Republic Day by hoisting the national flag on its campus with exuberance and joy. The festivities commenced with a spirited parade led by NISER's security staff, accompanied by the resonant singing of the national anthem. Prof. Hirendra Nath Ghosh, the Director of NISER, shared his insights in an inspiring address.

Recognizing and applauding excellence, the Institute bestowed outstanding performers' awards upon our dedicated administrative and technical staff, acknowledging their unwavering commitment to the NISER community throughout the years. The awardees include Dr. Chandramohan Bathrachalam, Scientific Officer - D; Shri Dolananda Pradhan, Administrative Officer - I; Shri Jyotiranjan Sahoo, SA-B (Physiotherapist); Shri Prakash Chandra Behera, Tech - D (Chem.); Smt Lipsa Das, Assistant - A; and Shri M Siba Prasad Rao, Assistant - A.

## WORLD CANCER DAY

Shearing glimpses of the enlightening World Cancer Day event that took place on February 4, 2024, hosted by Tata Memorial Centre and CMRP NISER. In observance of World Cancer Day and aligning with this year's international slogan - "**Close the care gap**," our program aimed to raise awareness and contribute to the collective efforts in cancer prevention and control. A heartfelt thank you to all our esteemed guests, experts, and community leaders who graced the occasion with their presence and valuable insights. Special gratitude to **Dr. Susanta Swain**, Additional Director of Health Services (NCD), Odisha and **Prof. Atul Budukh**, TMC, Mumbai, for their impactful deliberations. We took a moment to felicitate community leaders, tobacco quitters, and the winners of our drawing competition, acknowledging their significant contributions and efforts in the fight against cancer.



## BOOK EXHIBITION 2024

The NISER Central Library hosted a three-day book exhibition from March 5th to 7th, 2024, featuring a wide range of textbooks, reference materials, popular science works, and literary classics from reputed publishers and vendors. The exhibition aimed

to enrich academic resources and inspire reading across disciplines, showcasing achievements from Nobel Laureates to celebrated Indian scientists and technologists.



### OFFICIAL LANGUAGE HINDI IN NISER

The institute is making all possible efforts to promote & implement the Official Language Policy of the Union. The Official Language Implementation Committee (OLIC) consisting of all the Deans, Chairpersons, FICs, Registrar & other Section Heads under the Chairmanship of Director, NISER plays an important role to ensure the effective compliance and implementation of the policy in the Institute. The mandatory requirements like signage, stamps, letterheads, advertisements, and various administrative reports are already being done in bilingual manner. Staff members particularly those who have been trained through various official language Hindi courses and many others also execute their official work in Hindi to the best possible extent. To encourage and motivate more employees of the institute to execute their official work in Hindi, DAE's Incentive Scheme (ATOLIS - Atomic Energy Official Language Implementation Scheme) has been implemented and the staff members are being awarded the prizes under the scheme. The institute time to time also conducts Hindi Seminars / Webinars, Conferences, Workshops and Training Sessions. Competitive events in official language Hindi like essay writing, film quiz, noting & drafting, open speech competitions etc. are also being conducted during the Hindi Pakhwada / Hindi Diwas celebrations. Some of the Hindi events conducted during the year are mentioned below:

- In the year 2023-24 **Hindi Pakhwada** was observed in the Institute during September 14 – 29, 2023. A competitive event on "Hindi Grammar" was conducted amongst the staff & students of the Institute. Winners of this program were awarded with the cash prizes.

- **Training Programme:** A Faculty Development Programme for Hindi Officers & Officer In-Charges of Hindi was conducted in NISER by DAE during October 30th to November 1st, 2023. This training programme was sponsored / funded by the Administrative Training Institute (ATI) of DAE.
- A "**Public Awareness Programme on DAE's Activities**", was conducted in collaboration with NISER & IOP at Kalinga Institute of Social Sciences, Bhubaneswar on November 2nd & 3rd, 2023. This programme was fully sponsored by the DAE & Conducted by the officials of Hindi Section of DAE Mumbai.
- NISER participated in a Hindi Workshop & Technical Training Programme at Institute of Physics (IOP) jointly organized by IOP & IIT Bhubaneswar on December 19th, 2023.

### SWACHHATA PAKHWADA 2024

The Swachhata Pakhwada at NISER was observed during March 07 to March 20, 2024. The pakhwada was inaugurated on March 07, 2024. In order to raise the awareness of the NISER community on the burden of plastic waste, two documentaries were screened followed by a discussion on March 08. On March 09, a swachhata march was conducted on the NISER campus. Faculty members, staff, students, and the housekeeping staff joined the march to raise awareness on the importance of cleanliness. NISER members also spent two hours for cleaning the campus. On March 09 afternoon, NISER community members including the family members participated in the best out of plastic waste competition and displayed various crafts made of waste plastic materials.

On March 10, a cycle rally was undertaken to raise awareness on the importance of cleanliness. **Shri Sidharth Routray**, the First Odia Ultraman and Ironman, flagged off and joined the cycle rally along with 30 cycling enthusiasts of NISER. The rally started from NISER and went to Barunei Haill via Jatni market and IIT campus and returned to campus.

To promote the habit of cleanliness among the hostel inmates, a cleanest hostel competition was conducted among the nine hostels of NISER on March 11. Mahanadi Hostel emerged as the cleanest hostel of the campus. Similarly, the cleanest office space competition was conducted on March 12. Health centre of NISER and Library were adjudged as the cleanest office space of NISER campus.

On March 13, Meme Making and Slogan competitions were conducted on the theme burden of fossil fuel and transition towards clean energy.

On March 15, quiz on the environment theme was conducted.

On March 16 and 17, students painted beautiful graffiti on the NISER boundary wall on the theme 'burden of plastic waste on the planet earth'.

On March 18, a poster competition was conducted on the theme "cleanliness".

On March 20, the closing event of the Swachhata Pakhwada was organised. Director NISER, Professor Hirendra Nath Ghosh addressed the gathering and distributed the prizes to the winners of different competition.

## PARTICLE THERAPY MASTER CLASS

The "Particle Therapy Master Class," organized by CMRP NISER in collaboration with the International Particle Physics Outreach Group on March 15, 2024, offered a deep dive into the future of healthcare through particle therapy. Attendees explored the fundamentals of particle therapy, and advanced radiotherapy treatment planning with MatRad software, and participated in hands-on sessions to enrich their knowledge and skills.



## P. K. PARIJA LECTURE IN LIFE SCIENCES

NISER had the distinct honor of hosting the Second P. K. Parija Lecture in Life Sciences, made possible by the generous endowment from the Prof. Prana Krushna Parija Charitable Trust (Odisha). This year's captivating lecture, "**Can We Understand an Insect Society?**" was delivered by the esteemed **Professor Raghavendra Gadagkar**, DST Year of Science Chair Professor at the Centre for Ecological Sciences, Indian Institute of Science, Bengaluru. Prof. Gadagkar's presentation provided a fascinating exploration into the complexities of insect societies, enriching our understanding of these remarkable creatures and highlighting the crucial role of interdisciplinary research in unraveling nature's mysteries.



# Student Activities

## AWARDS AND RECOGNITIONS

### HBNI Outstanding Doctoral Student Award

**Dr. Sudip Sau**, affiliated with the School of Chemical Sciences, has attained the prestigious HBNI Outstanding Doctoral Student Award 2023. This accolade highlights the notable contributions of Dr. Sau, who was guided by the expertise of **Dr. Prasenjit Mal**, to his field of study.

### Best Poster Award

- **Ms. Sasmita Behera**, a Research Scholar, was conferred with the coveted Best Poster Award at the 6th International Eco Summit held at Gold Coast, Australia. Her innovative insights showcased on this global platform underline the calibre of research excellence nurtured at NISER.
- **Mr. Abhisek Mishra**, a Research Scholar from School of Physical Sciences, NISER achieved acclaim by securing the Best Poster Award at the International Conference on Materials for Advanced Technologies 2023, held in Singapore.
- **Mr. Saptarshi Datta**, Integrated MSc, School of Physical Sciences, was conferred the "Best Poster Award" in the experimental category at the 4th Heavy Flavour Meet hosted by IIT, Goa.
- **Varun Manilal** and **Dibya Bharati Pradhan**, both pursuing their Integrated MSc and engaged in their MSc thesis projects at the School of Earth and Planetary Sciences (SEPS), received recognition at the International Exoplanet Conference in Pune, held in August 2023. Their outstanding contributions were acknowledged with the 1st and 3rd Best Poster Prizes, respectively, highlighting the excellence of their research in the field of exoplanets.

### NIRMAN

**RoboTech Club** obtained the 2nd prize in the Line Follower competition at NIRMAN, an event hosted by the Silicon Institute of Technology, Bhubaneswar, by demonstrating their technical prowess and synergy.

### DAE Essay Competition

**Ms. N Sneha**, Integrated MSc at the School of Physical Sciences, won the Second Prize in the 35th DAE All India Essay Competition with her essay on "Application of Laser and Plasma Technology to Nuclear Fusion Energy."

### Prof. Dayanidhi Patnaik Memorial Award

**Dr. Subhrakant Jena**, Senior Project Associate from the School of Chemical Sciences, received the "Prof. Dayanidhi Patnaik Memorial Award" by the Odisha Chemical Society (OCS) in the best research paper category.

## VARIOUS CLUB EVENTS

### Zaariya

Zaariya is a group of dedicated individuals passionate about making a positive impact on society and giving back to their community. The club is committed to organizing and participating in various volunteer and service opportunities throughout the year, with the goal of making a meaningful difference in the lives of those around us. Among their notable events during 2023-24 is the Diwali Food Fest, where volunteers set up food stalls to sell food items, donating a portion of the profits to Zaariya. Another initiative, "your's कृतज्ञतापूर्वक," encouraged students of NISER to write letters or give small gifts to express gratitude to other students, with Zaariya delivering these letters anonymously. Additionally, the club hosts Prerana, an event where the children of NISER's housekeeping staff and security guards are invited to enjoy science demonstrations conducted by various science clubs, aiming to introduce and inspire a love for science among the children.

### Vaktavya

Vaktavya is a structured organization of extracurricular activity where individuals engage in formalized discussions or arguments on various topics. The primary objective of the debate club is to enhance critical thinking, communication skills, and the ability to formulate coherent arguments backed by evidence. Club events include a debate on "Should India's constitution be amended to remove the word: Socialist?" held during the event of Umang' 23, debate competitions during IICM' 23 elections, a Preamble reading on Netaji Jayanti, and cultural performances of different languages on International Mother Language Day.

### The Free Radicals (TFR)

The Free Radicals (TFR) is the chemistry club of NISER, established on 19th April 2022, making it the newest addition to the institute's science clubs. The club enhances academic experiences through alumni and student talks, and chemistry-themed activities, fostering a passion for chemical sciences beyond the classroom. TFR also engages in outreach activities to popularize science among school students and the public. Notable recent events include a chemistry-themed treasure hunt during Tvisha, an inter-college fest, and a reaction tier-list competition during Umang, the intra-NISER fest. Club events also feature the TFR Induction Quiz for first-year students, exhibitional chemistry sessions demonstrating experiments to young audiences, and TFR Student/Alumni Talks for discussing scientific topics.

### Sapsara (Photography club)

The Photography Club at NISER is revitalizing students' interest and skills in photography, providing a creative outlet to relieve academic stress. It offers a platform for sharing and discussing photos, learning, and improving through various activities. Recent events include:

- **Insect Race:** A collaboration with the Nature Club where participants photographed and identified insects on campus, with prizes for best photograph and most species.
- **Into the Cam-verse:** A workshop series starting on September 9, 2022, covering basic to advanced photography topics, paired with hands-on event coverage for skill enhancement.
- **Sci-pic Photography:** Part of NISER's outreach week, this competition encouraged school and college students to depict scientific phenomena through photography.

### Mathematix Club

The Mathematix Club at NISER celebrates numerical phenomena and ignites mathematical fervor through events like Pi Day, scavenger hunts, and the prestigious Integration Bee. Beyond competitions, it fosters a community of erudite thinkers with seminars and talks, enriching the academic landscape with a symphony of numerical intellect.

### Film Club

The NISER Film Club is a vibrant community of cinephiles dedicated to fostering a film-watching culture on campus. By screening a diverse selection of acclaimed and lesser-known films, the club provides a platform

for appreciation and discussion. It encourages healthy discourse on the art of filmmaking and hosts student talks focusing on both technical and cultural aspects. In addition, the club organizes various events, including a Film Quiz and an Oscar Marathon, and actively promotes independent filmmaking among students. Through these activities, the club enriches the film knowledge of its members and cultivates a passion for cinema within the NISER community.

### Drama and Music Club

The Drama and Music Club at NISER, Bhubaneswar, was established to unite individuals who share a passion for art, fostering collaboration and the development of co-curricular skills. The club has organized various exciting events, including the Solo/Duet Singing and Battle of Bands competitions during the UMANG 4.0 festival. The production of "Madagascar" also showcased the members' talents. Additionally, the club hosted **Dr. Kiran Seth**, the founder of SPICMACAY, for a special session, and conducted a Street (Nukkad Natak) Workshop led by **Nimi Mathew**. The club's induction program and Republic Day celebration further enriched the community, culminating in a vibrant Band Show by StereoHearts during the prize distribution ceremony.



### Dance club

The Dance Club is an inviting community for anyone eager to explore the joy of expression through movement. This vibrant group consists of enthusiastic students passionate about diverse dance forms, ranging from Bharatanatyam to Breakdance. They actively practice, promote, and perform the art of dance, creating an engaging environment. Notable events include Garba Night, featuring a dance workshop led by NISER alumni, and a Bollywood workshop conducted by choreographers from Odisha. Additionally, the club participates in Nrityotsav, the Umang intra-college fest dance event, and showcases talent at the IICM-2023 dance event at IISER Mohali, fostering creativity and collaboration.

### **Coding Club**

The NISER Coding Club aims to promote a code-first approach to problem-solving, bringing together those who share this philosophy and inspiring others. Its activities include programming tutorials, competitive contests, talks on computer science, and competitions in web development and creative coding. The club's software development group creates useful applications for NISER students, such as the canteen menu and the NISER archive. It also collaborates with the RoboTech club on projects requiring hardware-software integration. During NISER's festivals, the club organizes competitive programming contests and hackathons, which have motivated many students to take up coding. The club's events include Switcheroo, Against Time (a timed problem-solving competition), and coding club blogs.

### **Brain Matters Club**

The 'Brain Matters' Neuroscience Club at NISER fosters a vibrant community of neuroscience enthusiasts, making the complex field more accessible to students across disciplines. The club organizes a variety of events, including lectures, discussions, and interactive activities that explore diverse aspects of neuroscience. Notable activities include the Internship Talk Series, where students share their summer internship experiences, and a PhD Panel Discussion in collaboration with other clubs, offering insights into PhD applications. The club has also hosted engaging events like the Neural Nexus escape room and experimental demonstrations such as the Dancing Cockroach leg experiment and brain slide displays, providing hands-on learning opportunities. Looking ahead, the club plans to introduce more hands-on projects, including electrophysiological recordings and behavioral experiments.

### **Astronomy club**

The NISER Astronomy Club (NAC) is dedicated to fostering exploration, education, and community engagement in astronomy. The club actively organizes a wide range of activities, including night-sky observation sessions, astrophotography challenges, and hands-on astrophysics experiments. NAC's outreach extends beyond campus, with programs designed to engage local schools and colleges.

The club conducts regular weekly talks on various astronomy topics, offering students a platform to share their knowledge. Notable events include the Astrophotography Challenge and the Make Your Own Nebula competition, where participants showcase their creativity and scientific understanding. NAC also

hosts live streaming events for significant astronomical milestones, such as the Chandrayaan-3 Launch and Landing, along with telescope demonstrations and observation sessions that engage both the NISER community and the general public.

Through its magazine, 'KSHITIJ,' NAC spreads knowledge and inspiration, featuring contributions from various science enthusiasts. The club's activities are designed to nurture a deeper understanding of astronomy while building a vibrant community of like-minded individuals passionate about exploring the cosmos. Stay connected with NAC through its website and social media platforms for the latest updates and opportunities to engage with the wonders of the universe.

### **Arts Club**

The Art Club is a vibrant community where students explore and express their creativity through various art forms, including painting, drawing, sculpture, and photography. Open to all skill levels, the club fosters artistic growth and meaningful discussions about art's societal impact. The club has organized several events, such as a painting contest titled "NISER through your eyes" and a pot painting contest during UMANG 4.0. Additionally, an art exhibition and competition were held on the occasion of Agomoni. During Swachhata Pakwada 2024, the club hosted a "Best Out of Waste" competition, a poster-making competition, and a graffiti competition. A live spot painting event was also conducted in front of the SBS and SCS departments.

### **Science Activities Club**

The Science Activities Club at the NISER is one of the institute's oldest and most dynamic organizations, dedicated to promoting scientific awareness among students and the wider community. The club regularly hosts open days as part of its outreach initiatives, where school children are invited to experience fascinating experiments and scientific models. Events also include engaging talks by students and faculty members. The club's structure features four representatives from each school, covering mathematics, physics, biology, and chemistry. Additionally, the club organizes enjoyable events like "High-Pot-Thesis" and "Three Minute Thesis," which blend fun with scientific inquiry.

### **Quizone**

The Quiz Club at NISER is a vibrant and intellectually stimulating community for students who thrive on challenging their knowledge and curiosity. With a diverse

range of topics, from history and science to pop culture and current events, the club offers an exciting platform for members to participate in quizzes, competitions, and trivia nights. Through regular meetings, practice sessions, and friendly competitions, members sharpen their critical thinking, enhance teamwork, and forge lasting friendships. The club's events, such as the Sports Quiz on National Sports Day, Umang Fest quizzes, The Incredible India Quiz on Republic Day, the Swachhata Pakhwada Quiz, and Scibiztech quiz, provide ample opportunities for engagement and learning. Whether an experienced quizzier or a newcomer, the Quiz Club welcomes everyone to explore, discover, and grow in a fun and supportive environment.

### **OORNA**

Oorna, the nature club of NISER, was established with the aim of viewing nature through the lens of science while bringing the nature-lovers of our campus together. We conduct nature walks and talks and organize nature-themed events to inculcate appreciation and attention towards our natural surroundings. We also strive to conserve and rejuvenate the natural environment in and around NISER with joint efforts from the members of Oorna and NISER. The club's events include "Bungle in the Jungle: Treasure Hunt on the event of Tvisha".

### **VIKIRAN**

Vikiran, a student-run club at NISER aims to engage students interested in physics. The club hosts events like Scientia, a physics quiz competition, and Prerna, where demonstrations on non-Newtonian fluids and electron beams were conducted for the children of NISER staff in collaboration with Zaariya. Vikiran also organizes weekly student talks on diverse physics

topics, offering a platform for knowledge exchange and discussion. Additionally, the club's online Memes Competition encourages creativity by blending humor with physics concepts.

### **Literary Club**

The NISER Literary Club is a vibrant space for literature enthusiasts, offering book discussions, creative writing sessions, and literary analysis. It fosters a rich literary culture through events like author talks and fun monthly challenges. During Tvisha and Umang 2023, the club made a significant impact by organizing captivating events such as "Dastak," an open mic for Hindi-Urdu poetry, "Khat," a letter writing event, "Muse," a literary-artistic convergence, and "Echoes," an open mic themed around Nostalgia. These activities highlighted the club's dedication to blending literary passion with cultural celebration, enriching the NISER community.

### **Yoga Club**

The Yoga Club at NISER promotes wellness through regular practice, offering free daily yoga sessions to foster a stress-free and healthy campus environment. Recently, the club resumed special morning yoga and meditation classes to help students relax and rejuvenate. These sessions include warm-ups, various asanas, pranayama, and guided meditations. During Umang 2023, the club organized a Yoga session featuring the Deep Relaxation Technique (DRT) and a Yogasana competition, where students showcased their skills. The club also celebrates International Yoga Day each year, encouraging participation to reap the benefits of yoga.



# Outreach Activities

## OUR OBJECTIVE:

The NISER Outreach Program is committed to fostering a deeper understanding of the importance and principles of science within the broader community. These multifaceted initiatives play a crucial role in advancing scientific literacy, nurturing the aspirations of future scientists, and establishing stronger connections between the scientific community and the public. These programs ensure that the advantages of scientific knowledge are accessible to diverse audiences, thereby contributing to a society that is more informed, innovative, interconnected, and actively engaged with the scientific enterprise.

The initiatives taken by the NISER Outreach Cell aim to inspire students by exposing them to real-world scientific research and discoveries, encouraging them to pursue further studies and careers in STEM (Science, Technology, Engineering, and Mathematics) related fields. Hands-on experiments, workshops, demonstrations, and interaction with scientists and researchers are some of the key tools utilized in these outreach initiatives, as this exposure can broaden the students' perspectives on the advancement of science beyond classroom lessons. Lastly, these activities strengthen ties between the institute and the schools and colleges of Odisha, fostering collaboration and mutual support in educational endeavors.

Distinguished faculty members from various schools at NISER have been pivotal contributors to the success of these Outreach programs. Notable individuals in this dedicated cohort include Dr. Debasmita P. Alone, Associate Professor, SBS; Dr. U. Lourderaj, Associate Professor, SCS; Dr. Pankaj V. Alone, Associate Professor, SBS; Dr. Subhankar Mishra, Reader-F, SCPS; Dr. Anupam Pal Choudhury, Assistant Professor, SMS; Dr. Jayesh Goyal, Assistant Professor, SEPS; and Dr. Satyaprasad P. Senanayak, Assistant Professor, SPS.

As a part of NISER's Outreach program, we conduct various science outreach activities throughout the year, which are mentioned below:

Science Outreach Activities	No. of Events
<b>Educational Visits to NISER</b>	<b>21</b>
<b>Popular Talks</b>	<b>5</b>

<b>Student Internship</b>	<b>1</b>
<b>Teachers' Training Workshop</b>	<b>1</b>
<b>Other events</b>	<b>3</b>
<b>Total Number of Outreach Events in the year 2023-24</b>	<b>31</b>

## EDUCATIONAL VISITS 2023-24

Embarking on an educational journey outside the confines of a classroom can profoundly impact students' learning experiences. Organizing an educational visit to a research institute provides transformative educational experiences and a unique opportunity for school students to immerse themselves in the world of a cutting-edge scientific environment. Considering these thoughts, NISER Outreach Cell periodically organizes educational visits for Odisha's school and college students to deepen their understanding of scientific principles and cultivate a sense of curiosity and wonder in them. These visits are a year-round affair at NISER, allowing participants to engage with a state-of-the-art scientific institution. Interactions with NISER faculty, scientific officers, and NISER students inspire and enlighten, fostering a profound understanding of science as a career path and contributing to the scientific, social, and emotional development of all involved. Scheduled on Fridays with prior appointments, these visits expose school and college students to live experiments and provide insights into the work-life balance at NISER.

Upon arrival, students undergo an initial orientation session headed by Dr. Debasmita P. Alone, acquainting them with NISER's offerings, diverse courses, cutting-edge facilities, and extracurricular activities. Subsequently, they are guided to laboratories within their respective academic schools, including the School of Biological Sciences, School of Chemical Sciences, School of Physical Sciences, School of Mathematical Sciences, School of Computer Science, and the Centre for Interdisciplinary Sciences. Coordination of these visits is managed by Scientific Officers, including Dr. Arun Kumar, Dr. Chandramohan Bathrachalam, Dr. Priyanka Pandey, Dr. Santosh Babu Gunda, Dr. Saralashrita Mohanty, Dr. Shyamashree Ghosh, and Dr. Sudakshina Prusty.



In the academic year 2023-24, the Outreach cell successfully organized 21 educational visits, welcoming more than 1000 students and 180 teachers from various schools and colleges in Odisha. Institutions such as Baba Bhairabananda Autonomous Mahavidyalaya, Saraswati Sishu Vidyamandir, Aryan Institute of Engineering & Technology, Sai International School, KV Bhubaneswar No. 1, Shailabala Women's College, DPS Paradip Refinery, JNV Mundali, Shrimad Bhagwat Gita Vidyamandir, OAV Kamakhyanagar Jantaribol, JNV Hadagarh Keonjhar, Bhadrak Govt. Autonomous College, JNV Konark, High schools Mandasahi, Jagatsinghpur, Ghanshyam Hemalata Vidya Mandir, Puri, Brundaban Chandra Govt High School, Jagatsinghpur, Tulsi Women's College, Kendrapara, Rajdhani College and KV Puri participated in these educational initiatives.

Notably, visits were extended to various Odia medium schools representing all 14 blocks in Cuttack District and schools affiliated with the Odisha Block Education Office. Faculty members such as Prof. A. Srinivasan, Dr. Debasmita P. Alone, Dr. Pranay Kumar Swain, Dr. Chandra Sekhar Purohit, Dr. Kamal Lochan Patra, Dr. Subhankar Mishra, Dr. Satyaprasad Senanayak, Dr. Surya Snata Rout, and Dr. Guneshwar Thangjam provided enriching insights and imparted educational knowledge to the students in these visits.



## OUTREACH POPULAR TALKS 2023-24

NISER hosts a series of popular talks featuring renowned scientists from across the country, delivering enlightening plenary discussions to students from classes 9th to 12th and undergraduates alike. These talks delve into modern scientific research topics carefully chosen to resonate with students, offering insights into cutting-edge developments in various fields. A lively Q&A session follows each presentation, allowing students to engage directly with the speakers and delve deeper into the subject matter. These talks serve as invaluable platforms for students to broaden their understanding of contemporary science and technology, inspiring curiosity and igniting a passion for exploration. By exposing students to the latest advancements and facilitating direct interaction with experts, these sessions enrich their academic experience, foster critical thinking skills, and encourage future involvement in scientific endeavors.

During the academic year 2023-24, the Outreach cell orchestrated five highly attended popular talks, drawing an audience of approximately 2300 participants. The diverse participant pool encompassed students from institutions like Carmel English Medium School in Khordha, St. Xavier's High School in Jatni, St. Vincent's School in Khordha, PN College in Khordha, Jawahar Navodaya Vidyalaya in Khordha, High schools Mandasahi in Jagatsinghpur, Cohen International School in Khordha, DPS Paradeep Refinery as well as NISER students, faculty, and staff, along with attendees from various other educational institutions.



Renowned scientists graced these talks, contributing their expertise to the engaging sessions. The distinguished speakers included Prof. Padmanabhan Balaram, Professor & Former Director, IISc, Padma Bhushan Awardee; Prof. V. Chandrasekhar, a Fellow of the National Academy of Sciences and a Distinguished Professor and Centre Director at the Tata Institute of Fundamental Research, Hyderabad; Prof. Jagat K. Roy

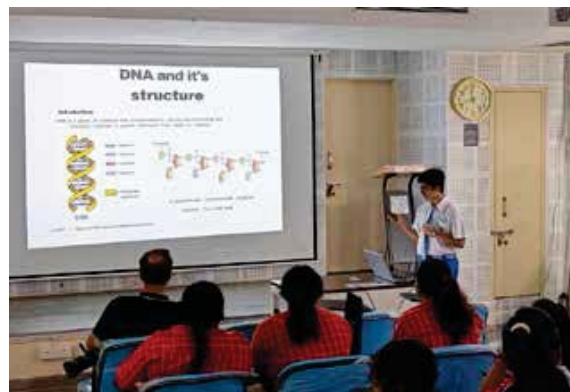
from the Department of Zoology at Banaras Hindu University; Prof. Naba K Mondal, INSA Senior Scientist, Saha Institute of Nuclear Physics, Kolkata; and Prof. Alok Goswami, NBHM Visiting Professor at the Indian Association for the Cultivation of Sciences, Jadavpur. Their presentations captivated the audience and enriched the intellectual atmosphere, making these talks valuable contributions to the academic discourse within the community.



### STUDENTS' INTERNSHIP 2023-24

The NISER Outreach program has pioneered a transformative 15-day internship tailored for students in grades 11th to 12th. This immersive experience is designed to provide participants with a comprehensive understanding of the intricacies of research laboratories. During the internship, students are strategically assigned to various laboratories, where they actively engage in diverse activities and experiments, gaining valuable insights into the dynamic world of scientific research. On the last day of the program, the students are also given a chance to present what they have learned from the internship, which enables them to have a firsthand idea about science communication.

This year, the program accommodated 35 students from prominent educational institutions such as Apeejay School Bhubaneswar, BJB Higher Secondary School, Carmel School in Khordha, DAV Public School in Unit-8, Bhubaneswar, Kendriya Vidyalaya in Khurda Road, Pranath Higher Secondary School, and Sai International School. The feedback from the participating students highlighted their appreciation for the opportunity to witness the research environment firsthand, providing them with a tangible understanding of the research process.



The program's success is attributed to the dedicated efforts of NISER's esteemed faculty members, who played pivotal roles in guiding and mentoring the interns. The faculty members involved in this impactful initiative include Prof. A Srinivasan, Dr. Ajaya Kumar Nayak, Dr. Bishnu P. Biswal, Prof. Brundaban Sahu, Prof. Chandan Goswami, Dr. Chandra Shekhar Purohit, Dr. Debasmita P. Alone, Dr. Krishnan Venkatasubbaiah, Dr. Mohammed Saleem, Dr. Pankaj V. Alone, Dr. Pathikrit Bhattacharya, Dr. Pratap K. Sahoo, Dr. Priyadarshi Chowdhury, Dr. S. Peruncheralathan, Dr. Shamik Banerjee, Dr. Sharanappa Nembenna, Dr. Shovon Pal, Dr. Subhankar Mishra, Dr. Tirumala Kumar Chowdary, and Dr. Upakarasamy Lourderaj. Their collective commitment has made the internship program successful and provided a platform for nurturing the next generation of scientific minds.



## TEACHERS' - TRAINING WORKSHOP 2023-24

In 2023, the Outreach Cell inaugurated a Teachers' Training Workshop at NISER, expanding its initiatives. The inaugural NISER Outreach Teachers' Training Workshop took place from 25th to 28th September 2023, hosting 53 teachers from Odisha Adarsha Vidyalaya Sangathan from 25 districts in Odisha. Over four days, they actively engaged in training, enriching their skills and contributing to a more dynamic educational environment for students.



The first workshop empowered educators with innovative techniques to effectively communicate science concepts to students. Participants gained insights into making science an inclusive learning experience through interactive sessions and hands-on activities. Led by seasoned professionals, the workshop enhanced teachers' pedagogical skills and fostered a deeper appreciation for science.



## SCIENCE CAMP 2023:

In 2023, India celebrated the G20 Jan Bhagidari Summit to generate interest among the people regarding the G20 education meet. The National Institute of Science Education and Research Bhubaneswar was chosen as one of the anchoring institutes in Odisha to conduct

such outreach events in Khordha and to coordinate month-long educational activities.



To commemorate the spirit of hosting the premier presidency of G20, NISER Bhubaneswar kick-started the launch of G20 Jan-Bhagidari from April 6th-8th, 2023, by organizing a Science Camp at the Institute. 128 students and 23 teachers from 12 districts in Odisha participated in the event. The Science Camp was a three-day, fun-filled educational event designed for higher secondary students with interactive experimental demonstrations with hands-on experience, lectures from faculty members and eminent scientists, and recreational activities related to robotics, astronomy, and nature.



## OPEN DAY 2023:

As part of the G20 Outreach activities, the Outreach Cell conducted Open Day 2023 on April 8th. This event welcomed around 300 students and teachers from 14 districts across Odisha to the NISER campus, which was open to the public. The day featured various engaging activities, including experimental demonstrations conducted by NISER students and insightful talks delivered by faculty members. Participants had the opportunity to explore state-of-the-art laboratories, interact with researchers, and gain hands-on experience with scientific experiments.



## NATIONAL SCIENCE DAY CELEBRATION 2024:

To honor National Science Day, the NISER Outreach Cell organized a two-day exposure visit on 29th February and 1st March 2024. On the first day, 38 teachers from Jatni block, Khurda district, and DAV Public School, Unit VIII, Bhubaneswar, participated. They experienced demonstrations, discussions, and observations by involved faculty members and scientific officers in

the School of Biological Sciences, Physical Sciences, Chemical Sciences, Earth and Planetary Sciences, and Computer Sciences. The second day welcomed undergraduate and postgraduate Physics students from Rajdhani College, Bhubaneswar, who toured research labs in the School of Physical Sciences, led by Dr. Kartikeswar Senapati, Dr. Pratik Sahoo, and Dr. Satyaprasad Senanayak. They observed various instruments and learned about the research process and its importance.



## VIGYAN PRATIBHA BRIEF REPORT 2023-24

### About the Vigyan Pratibha Project at NISER:

Vigyan Pratibha, an innovative initiative by the central government, aims to create a unique learning environment by integrating constructivist and collaborative pedagogical tools. The National Institute of Science Education and Research (NISER) and the Institute of Physics (IOP) are spearheading this effort, working with 8th, 9th, and 10th-grade students and educators from Kendriya Vidyalaya (KV), Jawahar Navodaya Vidyalaya (JNV), and Atomic Energy Central Schools in Odisha and Chhattisgarh. This collaboration involves scientists, teachers, and educators developing 'learning units'—activity modules designed by the Homi Bhabha Centre for Science Education (HBCSE). These units align with the NCERT curriculum and are designed

to give students a deep and critical understanding of scientific concepts.

The Vigyan Pratibha project aims to revolutionize science education for students by incorporating hands-on experiences and interactive learning methods. This initiative seeks to move beyond traditional textbook learning, offering students practical engagement with scientific concepts. By fostering a more immersive and participatory learning environment, the project helps students develop a deeper understanding and appreciation of science. Through experiments, real-world applications, and collaborative projects, Vigyan Pratibha enhances students' knowledge and stimulates their curiosity and critical thinking skills, preparing them for future scientific endeavors.

The dedicated Vigyan Pratibha team at NISER, which includes distinguished faculty and staff such as Dr. Debasmita P. Alone, Associate Professor, SBS; Dr. Pankaj V. Alone, Associate Professor, SBS; Dr. Upakarasamy Lourderaj, Associate Professor, SCS; Dr. Subhankar Mishra, Reader-F, SCPS, and associated project staff, actively participates in numerous events throughout

the year. Other faculty members and scientific staff also contribute to the Vigyan Pratibha project as resource persons, including Dr. Anupam Pal Choudhury, Reader-F, SMS, and Dr. G. Santosh Babu, Scientific Officer-F, SPS.

The following activities have been conducted in the year 2023-24 under the VP project:

Sl. No.	Date of the Event	Title of the Activities	Participating Educational Institutes	Number of participants
1	19.06.2023 - 23.06.2023	Vigyan Pratibha Resource Generation Camp 2023	VP Regional Centers	43 Resource Persons
2	18.09.2023 - 22.09.2023	First Vigyan Pratibha Teachers' Training Workshop 2023-24	KVs, JNVs, and AECs Odisha, Chhattisgarh and Karnataka	53 teachers
3	20.11.2023 - 23.11.2023	Second Vigyan Pratibha Teachers' Training Workshop 2023-24	KVs, JNVs, and AECs Odisha, Chhattisgarh and Karnataka	48 teachers
4	25.08.2023	VP School Visit (Components of Wood Ash)	KV Bhubaneswar No. 1	31 students (Class 9)
5	11.12.2023	VP School Visit (Measuring Volumes)	JNV Baleswar	24 students (Class 8)
6	11.12.2023	VP School Visit (Exploring Dot Grids using Rectangles)	JNV Baleswar	31 students (Class 8)
7	03.02.2024	VP School Visit (Components of Wood Ash)	KV Khurda Road	20 students (Class 9)
8	2023-24	Learning Units conducted in schools	KVs, JNVs and AECs	1058 students

## RESOURCE GENERATION CAMP

The VP team at NISER held a Vigyan Pratibha Resource Generation Camp from June 19th to 23rd, 2023, where 43 resource persons from different science studies participated from all around the country. The camp aimed to share school visit experiences, highlighting creativity, resourcefulness, and student engagement. Discussions covered resource management, teaching in native languages, peer-led learning, and innovative approaches for learning units. Participants brainstormed new ideas, drafted learning units, and planned upcoming workshops, cluster meets, teacher submissions, and fellowships. The camp fostered collaboration and strategic planning to enhance the effectiveness of the Vigyan Pratibha project.



## VIGYAN PRATIBHA TEACHERS'-TRAINING WORKSHOPS

The purpose of the Vigyan Pratibha project was to revolutionize science education by conducting biannual teachers' training workshops in several Regional Centers across the country, in addition to two additional sessions held at the NISER campus. With a focus on Trained Graduate Teachers (TGTs) from Kendriya Vidyalayas (KVs), Jawahar Navodaya Vidyalayas (JNVs), and Atomic Energy Central Schools (AECs), these carefully planned workshops seek to empower educators from a variety of schools.

Participants at these workshops receive extensive training utilizing a variety of learning modules intended to improve their teaching abilities. After the first training, educators return to their classrooms with pre-designed lesson plans for their students, giving them a dynamic and participatory learning environment.

An evident feature of the Vigyan Pratibha initiative is observed in the subsequent workshops, where teachers delve into a fresh set of educational modules. During this phase, the teachers exchange their experiences, discussing the achievements and difficulties faced

during implementing these modules. This continuous method expands teachers' viewpoints and enhances their teaching practices with inventive ideas and approaches.

This program's influence spreads nationwide as these dedicated teachers nurture their students' scientific excellence and curiosity. They greatly contribute to advancing scientific literacy and education in society by consistently enhancing their abilities and implementing innovative tactics, motivating the following generation of scientists and knowledgeable citizens.



**Vigyan Pratibha 1<sup>st</sup> Teachers'-training Workshop**



**Vigyan Pratibha 2<sup>nd</sup> Teachers'-training Workshop**

## VIGYAN PRATIBHA SCHOOL VISITS

The Vigyan Pratibha team at NISER works with teachers to execute the previously mentioned learning units in their individual schools. During these visits, the teacher and the VP team bring a variety of interactive and hands-on scientific activities right into the classroom. They begin by introducing students to the learning modules and then proceed to facilitate the tasks listed in each unit. Students actively participate in these activities, asking questions and working together to solve difficulties, which improves their grasp of the material at a deeper and more intuitive level. These sessions offer vital insights into students' viewpoints and teacher interactions.



## LEARNING UNITS CONDUCTED IN SCHOOLS

Teachers who attended training workshops implemented the specified learning units with their pupils, provided detailed reports to the Vigyan Pratibha teams at NISER, and posted their entries to the official website. These seminars comprised interactive experiments and demonstrations designed to help students develop a practical understanding of scientific principles. Instead of simply memorizing, these activities exposed students to real-world applications of their study. In the academic year 2023-24, these efforts through the Vigyan Pratibha project impacted 1,058 students.

The teacher training workshops conducted as part of Vigyan Pratibha have equipped educators with cutting-edge tools and tactics to enhance science education. This method has not only enhanced the engagement and accessibility of science for students but has also empowered teachers to create dynamic and efficient learning environments. As a result, students and teachers have acquired a more profound understanding of scientific topics, leading to a more fulfilling educational experience.

## Celebration of the International Day of Yoga

On June 21, Variable Energy Cyclotron Centre (VECC) joined the global celebration of International Day of Yoga, recognizing the importance of yoga for enhancing physical health, mental clarity, and overall well-being. The event was designed to engage employees, **faculties and students** to promote a healthy work-life balance, and foster a sense of community within the workplace. The session included a series of basic yoga poses (asanas), breathing exercises (pranayama), and a short meditation. Over 100 employees from various divisions joined the session, creating a lively and energetic atmosphere to start the day.



## Participation of PAC in exhibitions

VECC participates in various science exhibitions throughout the year and conducts open house meets to interact with people.



## **Outreach Program in Schools and Career Opportunity in DAE**

The Public Awareness Cell of VECC every year arranges outreach program covering three states (West Bengal, Orissa and Jharkhand) to highlight and enlighten the students about the activities of DAE as well as the career



opportunities in DAE.

## Student visits to VECC

The Public Awareness Cell of VECC arranges regular visit of students in VECC to enrich the students about various unknown realm of science.





## School Visits in VECC

