

Annual Report

&

Audited Statement of Accounts

2022-23



Institute of Physics

BHUBANESWAR

OTHER ACTIVITIES

4.1 Foundation Day

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4.4 AzadiKaAmritMahostav (AKAM) Programme:

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4.1. Foundation Day

Institute of Physics, Bhubaneswar, celebrated its 48th Foundation Day in its premises on 4th September 2022. Prof. Ajit Kumar Mohanty, Director, Bhabha Atomic Research Centre (BARC), Mumbai, graced the occasion as Chief Guest and delivered the Foundation Day Talk. Prof. Mohanty explained how IoP is an iconic place for pursuing research and how he is an IoPian in many aspects. He also explained the peaceful use of nuclear energy in the energy sector, particularly sustainable nuclear power for society. Prof. Mohanty emphasized the research of the Neutrino, the use of materials for thermoelectricity, supercomputer applications etc. He also addressed the audience by citing the brief story of Homi Bhabha and Sir C. V. Raman.

The session was chaired by Prof. K. K. Nanda, Director, Institute of Physics, Bhubaneswar, in the presence of Prof. T. Som, Chairman of the Foundation Day Celebration Committee, Prof. P. K. Sahu, Registrar and Dr Basudev Mohanty, Convener at the Institute's Auditorium. The meeting ended with a vote of thanks by Prof. P. K. Sahu, Registrar, Institute of Physics, Bhubaneswar, followed by a Cultural Programme.

Apart from these, eminent Professors in Physics delivered two Foundation Day Colloquia on different domains of Physics in the morning sessions. In the first session, Prof. S. B. Krupanidhi, Materials Research Centre (MRC), Indian Institute of Science (IISc.), Bangalore, talked on "*Heterojunctions based on 2D/III-Nitrides hybrids*", emphasising various applications of photo-detectors such as environmental monitoring, space research and optical communication. In the second session, Prof. D. Kanjilal, Inter-University Accelerator Centre (IUAC), New Delhi, talked about "*Ion Accelerators and their Applications in Research and Industry*". It covered the design and development aspects of various ion accelerators and associated technology, especially in the country. The use of various ion beams at different energies is also explained by Prof. Kanjilal.



4.2. Outreach Programme

i) National Science Day

Each year on 28th February, Institute of Physics (IoP) observes National Science Day in its premises. As a part of this year's celebration, IoP organized an "OPEN DAY" event to showcase its

diversified research activities, and demonstrate various live experiments. The main objective of this observation was to awaken the scientific spirit and temper in the minds of the budding talents and create more scientific and technological awareness among the students, teachers, parents, technology enthusiasts and the general public in the day-to-day life. During the "OPEN DAY" event, the students and scientists of IoP demonstrated live demo experiments, organized Laboratory visits, and presented scientific posters. Some of the exciting live demo experiments included Plasma Generation from Grapes in Microwave, Light Emission from Quantum Dot, Demonstration and application of Eddy current, Conservation of angular momentum, Non-Newtonian fluid, Laser bottle, Mobius strip, Cyclotron, Gyroscope, Superconducting Levitation, Health monitoring system, Demonstration of Solar energy, 3D Hologram, Refractive index and densities, Neutrino as a tool for societal benefits, Solar photovoltaic: An amazing source of green energy, Liquid Nitrogen, Radiation and Liquid Crystal. Various laboratories/ experimental set up such as Ion Beam Laboratory, Advance Material Growth Laboratory, Laboratory for Low-Dimensional Materials, X-ray Photoelectron Spectroscopy (XPS) Laboratory, Transmission Electron Microscopy (TEM) Laboratory, Surface Nano structuring and Growth Laboratory, Raman spectrometer, SQUID-Magnetometer, Pulsed laser deposition (PLD), HEP Detector Laboratory, and Liquid crystal laboratory werethe main attractions





ii) Popular Science Talk in the Wissenaire'22 program at IIT Bhubaneswar on April, 3, 2022.

Prof. A.M. Srivastava gave a popular science talk on “The Universe. Elementary particles, and Dark energy” at the Annual Techno - Management fest of IIT Bhubaneswar. Wissenaire'22 on April 3, 2022. A star gazing session (with telescopes taken from IOP) was also planned at IIT, but in the end due to clouds it could not be done.

iii) The study tour of S.C.S. (Autonomous) College, Puri students and teachers to Institute of Physics, Bhubaneswar on 13.04.2022

The study visit of students and teachers of S.C.S. (Autonomous) College, Puri to Institute of Physics, Bhubaneswar was held on 13.04.2022. Director Prof. K. K. Nanda, enlightened the students about the carrier in basic science and the research activity carried out at IOP. Dr. S. N. Sarangi, scientific officer, Institute of Physics coordinated the program and the students interacted with the members of IOP and visited different laboratories of IOP. Doctoral Scholars and scientific staffs of different labs volunteered for the smooth visits of the students to different Laboratory.



A group photograph of the students who visited IOP on 13.04.2022

iv) **Popular Science Talk on "Black Holes for General Public" in the SOAFAL Series on 15th June, 2022**

Prof. A.M. Srivastava gave a popular talk on "Black Holes for General Public" in the SOAFAL (Siksha O Anusandhan Fortnightly Academic Lecture) Series of SOA University, Bhubaneswar on 15th June, 2022. The talk was attended by about 75 students, faculty members and audience from general public.

YouTube Link:

https://www.youtube.com/watch?v=hJDIqNXWJr8&list=PLBZf15tRid2v7FQiJokHu1_ftc_h1Kwcr&index=6



v) **Motivational Seminar of IPEWS "Modern Number System : Finite and Transfinite" on 21st July, 2022**

A motivational talk was arranged on 21st July, 2022 in the Lecture Hall of the Institute. The title of the talk was "Modern Number System: Finite and Transfinite". The talk was delivered by Mr. Chandra Kumar Das. Mr. C. K. Dash, Associated Member of "Institute of Electronics & Telecommunication Engineers, new Delhi. Around 110 audience including research scholars and PDFs were gathered in the said talk.

Title	: Development of Modern Number System: Finite and Transfinite
Speaker	: Mr. Chandra Kumar Das, Rtd. Engr. Prasar Bharti, India.
Date	: 21 st July, 2022 (Thursday)
Time	: 5.00 p.m.
Venue	: IOP Lecture Hall

ii) **Celebration of DAE Iconic Week from 22nd August, 2022 to 28th August, 2022 as a part of AzadiKaAmritMahotsav.**

Institute of Physics, Bhubaneswar observed the "DAE Iconic Week"

As part of "Azadi Ka Amrit Mahotsav" the department of Atomic Energy (DAE) observed "DAE Iconic Week" from 22nd to 28th August 2022. To bring Science to the forefront and awaken the scientific spirit, various programs are being organized at the Institute of Physics (IoP), Bhubaneswar, namely: Seminars, Lab visits & Quiz competitions (for School & Junior College & Senior College students), Orientation Programme & Art of Living, Physics Open discussion, Skywatch Program etc.

ii) **DAE Iconic Week dated 22.08.2022: Plantation**

The Institute of Physics, Bhubaneswar celebrates the DAE Iconic Week as a part of the AzadiKaAmritMahotsav. The inaugural meeting of the proposed week was observed today i.e. on 22.08.2022 in the conference hall of the Institute. Around 100 staff members of Institute including research scholars are participated the inaugural function. As a part of the DAE Iconic Week, the Institute decided to start the activity with tree plantation programme. The Tree Plantation Program (Bano Mahotsav) by the Institute members was organized and 200 of saplings collected from the Forest Department, Govt. of Odisha such as Neem, Pista, Kanchan, Jammu, Ashok etc. were planted inside the Institute campus. Prof. KarunaKar Nanda, Director, Prof. P.K. Sahu, Registrar and Dr. S. N. Sarangi, Convener, AKAM deliver their speeches on Celebration of DAE Iconic Week at inaugural meeting. All the staff members participated in the tree plantation and the program completed successfully.



(Prof. K. K. Nanda, Director, Institute of Physics delivering the Inaugural Speech at Inaugural function)



(All staff members at Tree Plantation ground and Prof. K. K. Nanda planting a tree)



(Prof. P. K. Sahu and Prof. S. Varma planting tree)



(Blood Donation Banner and a Group Photos of IOP staff members and Director, IOP)



Staff members and donors in Blood Donation camp



Registrar, IOP and Staff members donating Blood

ix) DAE Iconic Week Dated 24.08.2022: (Science Awareness Program for School and Jr. college Students)

Institute of Physics, Bhubaneswar organizes a Science Awareness program for school and junior college students on 24.08.2022. Around 120 students from different schools and colleges of Odisha participated in the program. The students visited all the experimental laboratories of Institute and interacted with faculty members and scientific officers of the Institute. The program ended with an interesting quiz program among the students and the prize distribution was made during the competition.



(Director, Registrar delivering their Inaugural Talk)



Group Photo of participants



Some winner receiving Prizes during Quiz program

x) DAE iconic week dated 25.08.2022: (Academic Program for Sr. College & University students)

As a part of the DAE Iconic week, the Institute organized one day academic science awareness program for senior college students. Around 200 students from various colleges and universities of Odisha have participated in the program. Prof. A.K. Tyagi, Director, Chemistry Group, BARC, Mumbai delivered a popular lecture on the "Career in Science" and had a close interaction with the students. Mr. Manish Patel and Ms. Aisha Khatun, Research Scholars of IOP also gave scintillating academic

talk in the morning session. In the afternoon session, Prof. K.K.Nanda, Director, IOP delivered a popular talk on "Photoluminescent materials for societal applications". Dr. S. N. Sarangi, SO/D of the Institute demonstrated an experiment on Light Emission. The session concluded with National Anthem. By the support of all staff members of IOP, the program was completed successfully.



Prof. A. K. Tyagi, BARC on interaction session with participants



Mr. Manish Patel and Ms. Aisa Khatun, IOP research scholars delivering talk



Prof. K. K. Nanda, Director, IOP on Question-Answer Session with the participants



(Demonstration of Light Emission by Dr. S. N. Sarangi, IOP)

xi) DAE iconic week dated 26.08.2022 : [program for Ankur children (children resides in nearby basti) and yoga program]

The Institute dedicated the 5th day of the DAE Iconic Week to ANKUR (Children lives in the nearby Basti/Slum area). Volunteers from the research scholars of the Institute picked up about 35 children of Standard-III to Standard-VIII from Biswaswar Basti in two slots. There are various scientific awareness activities, explanatory film on Chandrayaan, Trigonometry, scientific recreational activities and many other magical scientific experiments. IOP researchers help children to draw various trigonometric figures. Prof. A.M. Srivastava explained the basic principles of lens and magnet. Prof. Srivastava also advised the kids about the childhood life of prominent scientists like Einstein. Dr. B. Mallick explained the kids on various magical scientific experiments like rainbow production and vacuum pump etc. In the evening session, the Institute organized a Yoga camp with the help of “Art of Living” group. Around 100 participants from the Institute attended the program. With the support of all staff members of IOP, the program was concluded successfully.



Prof. K. K. Nanda, Director, Prof. P. K. Sahu, Prof. A. M. Srivastava and others interacting with the ANKUR Children



(Research Scholars of the Institute helping the ANKUR Children to draw different geometrical shapes)



(YOGA Program, Prof. K. K. Nanda and Prof. P. K. Sahu in Yoga Camp)

xii) Dae iconic week dated 27.08.2022: [health camp program for Iop members]

A health camp on Cardio, Ortho and Diet subjects on 6th day of Iconic week. The camp was organized with the professional doctors from local well-known Kalinga Hospital, Bhubaneswar. Approximately 100 members from the Institute campus along with their family members attended the session. Mrs. Anjana Tripathy elaborated the importance of balanced diet. Prof. & Dr. Ranjit Panigrahi gave a popular talk on Orthopedics (Arthritis) and Dr. Susant Saila has given a seminar on Cardiology. Both the doctors have also clarified the questions asked by the audience. Dr. Panigrahi and Dr. Tripathy attended the patient from the audience/ members from IOP after the seminar session. By the support of all staff members of IOP, the program was completed successfully.



(Banner of Health Camp, and a group photograph with Director)



(Prof. K. K. Nanda, Director felicitating Dr. Ranjit Sr. Orthopedics and Dr. Sushant, Sr. Cardiologist of Kalinga Hospital, Bhubaneswar)



(Director felicitating the Dietician and Volunteers from Kalinga Hospital, Bhubaneswar)



Dr. Saila (Cardiologist) and Dr. Tripathy(Orthopedics) attending the normal checkup camp with Institute campus members)

xiii) Dae iconic week dated 28.08.2022:[program on scientific presentation by campus children and drawing competition on AzadiKaAmritMahotsav]

As a part of the DAE Iconic week, on the 7th day of the week, Institute of Physics, with the aim of inculcating scientific temper in the campus children as well as patriotism among the little ones, it was decided to have a drawing competition program among the children on the theme "AzadiKaAmritMahotsav". About 40 children participated in this program. All the winners of the drawing competitions were awarded by the Director, Prof. K. K. Nanda. Later a scientific presentation was given by the children of the campus. Among them, two children were selected to get prize, Mr. Sarfaraz Khan and Ms. Subhrangi. In order to encourage all the little children for their activity, they were given the "AzadiKaAmritMahotsav" Seal. The program ended with the national anthem with the participants. Before the conclusion of the session, there was a group discussion on future planning for the outreach program at IOP. The evening's Skywatch program was canceled due to the bad weather. The program was successfully completed with the support of all the staff members of IOP.



(Banner and Group Photos of the drawing competition)



(Program for ANKUR Children)



(Practical Mathematics for ANKUR Children)



(Yoga Program and the Concluding Session of the AKAM)

xiv) Sonapur College, Subarnapur (12.11.2022, Saturday)

1. The tour of the outreach members started on 12th November, 2022 at 8.00 am from Boudh district towards Sonpur College, Subarnapur.
2. Our outreach team was given a grand welcome by the Principal, HOD, students and other faculty members of Sonpur College, Subarnapur.
3. Sonapur College had an inaugural session in their auditorium where the Director, along with all the academic members of that college were welcomed by the Principal of Sonapur College, Formally after lighting the lamp and all were facilitated with memento. A grand opening talk was given by Prof. R.L Acharya, Principal, Dr. (Mrs.) Rath, HOD, Dept. Physics of Sonapur College and our Director Prof. K. K. Nanda and Chief guest from BARC Dr. S. Kar. Outreach coordinator Dr. S.N. Sarangi proposed the vote of thanks.
4. The technical session of the above program started after a short tea break.
5. Inauguration of technical session by Prof. K.K. Nanda, Director, Institute of Physics, as listed below.

TECHNICAL SESSION		
S.N.	Name of the Speaker	Topic of Presentation
1.	Prof. K. K.Nanda, Director	Career in Science
2.	Dr. S. Kar, SO-G, BARC	Water Treatment
3.	Dr. S. N. Sarangi	Nano Science and Nano Structure
4.	Dr. B. Mallick	Practical application of Liquid Nitrogen



xv) Collector Office, Boudh (12.11.2022)

1. The Academic member of IOP outreach team and Dr. S. Kar, Scientist, BARC held a meeting with District Collector, Boudh regarding the installation of water treatment plant in Boudh District. The meeting was held at Circuit House Boudh around 10.30 pm. The meeting lasted till late-night 12.20 am.
2. The team explained in detail the details of the water treatment plant of DAE (figure) in front of the District Collector, Boudh, Panchayat Officer and Tehsildar.
3. The meeting was very successful and the Collector, Boudh immediately showed interest in setting up 5 water treatment plants and later he agreed to set up about 100 more water treatment plants in Boudh district. The team also collected water samples from 5 locations where treatment plants are going to be set up soon.
4. The meeting ended with a vote of thanks to each and every member.



xvi) Jawahar Navodaya Vidyalaya, Boudh (13.11.2022, Sunday)

1. As per the invitation from Jawahar Navodaya Vidyalaya (JNV), Boudh, the outreach members started the tour on 13th November, 2022 at 5.00 PM to visit JNV, Boudh for an academically inspirational program. There was a gathering of around 400 students from classes VI to XII. Their teachers were also thronged with eagerness for the academic programme.
2. The troop was grand welcomed by JNV.
3. The academic program commenced at around 7.30 pm after a formal introductory meeting and introduction of the dignitaries before the gatherings.
4. Academic Inspirational Sessions from the Academic Group of Outreach Team listed below.

TECHNICAL SESSION

S.N.	Name of the Speaker	Topic of Presentation
1.	Prof. K. K.Nanda, Director	Grow with Science
2.	Prof. P. K. Sahu	Facilities available at Institute of Physics and their Utilities in Research
3.	Dr. S. N. Sarangi	Light and Nano Structure
4.	Dr. B. Mallick	Magic in Science with Liquid Nitrogen



xvii) Model Degree College, Boudh (14.11.2022, Monday)

- As per schedule, visiting outreach members reached the venue at around 9.00 am. The inaugural session began after due registration of a gathering of around 300 students from five nearby colleges.
- Principal Model Public College Boudh introduced the guests present in the meeting. Prof. P.K. Sahu, Registrar, IOP delivered the inaugural address, Prof. K.K. Nanda, Director, IOP delivered the chief guest address. The session concluded with the inauguration of the AKAM Bulletin followed by the vote of thanks by Dr. P.C. Behera, The Nodal Officer of the program and the Principal of Boudh Panchayat College.

3. The academic and technical session of the above program started after a short tea break with snack for the students.
4. Inauguration of technical session by Prof. K.K. Nanda, Director, Institute of Physics, as listed below.
5. The program ended around 2.30p.m. with a grand lunch for the gathering students and teachers.

TECHNICAL SESSION

S.N.	Name of the Speaker	Topic of Presentation
1.	Prof. K. K.Nanda, Director	Career in Science
2.	Prof. P. K. Sahu, Registrar	Facilities in Institute of Physics
3.	Dr. S. N. Sarangi	Nano Science, Nano Structure & its application
4.	Dr. B. Mallick	Application of Liquid Nitrogen



xviii) Report on Outreach Programme conducted on 24.12.2022 at Ganjam District

Institute of Physics (IOP), Bhubaneswar has been regularly organizing seminars and other public awareness & outreach programs time-to-time with the objective of creating awareness among students, teachers, public representatives, government officials and member of public.

Public Outreach program on 'Outreach Programme for Science Students' was organized at Berhampur Universtiy (BU), BhanjaVihar, Berhampur, Ganjam, Odisha on dated 24.12..2022 for the M. Sc students of Department of Physics, Department of Chemistry, Department of Electronics, Department of Electronics of Berhampur Universtiy. Students from NIST College and Khalicote college also joined in the meeting. Around 200 Nos. of students participated in the programme. The aim of the program was to draw the attention of the young minds towards carrier in science, the societal application of Nuclear Science and activities of DAE and IOP, Frontier research in materials science etc.

The inaugural meeting was chaired by Prof. Geetanjali Dash, Vice-Chancellor, Berhampur University, Prof. KarunaKar Nanda, Director, IOP, Prof. P. K. Mohanty, Chairman, P.G. Council, BU, Prof. P. K. Sahu, Registrar, IOP, Prof. S. K. Tripathy, Department of Physics, BU and Dr. S. Panda, Head, Deptt. Of Physics, BU. Dr. SachindraNathSarangi, Convener, AKAM Committee, IOP introduced the aim of the meeting and welcomed the gathering. All the chaired dignitaries addressed the students and faculties present in the meeting. Prof. Geetanjali Dash, Vice-Chancellor thanked the IOP team for organizing such a wonderful & knowledgeable programme at Berhampur University. She appreciated the knowhow and the use of Nuclear Energy to produce nuclear power as a safe, eco-friendly and economically viable source of electrical energy to meet the increasing energy demands of the country. The inaugural meeting was ended with vote of thanks Dr. S. Panda, Head, Deptt. Of Physics, Berhampur University, Berhampur.

After inaugural meeting, the technical session began at around 10:30 hrs where Prof. K. K. Nanda talked about eh recent advances in the topic 'Resistive Sensor'. Prof. P. K. Sahu delivered a talk on "Atomic Energy and its Applications to Society". The aim of the presentation was to enhance the awareness about nuclear energy, on-going project activities and to provide the information about the measure being taken to make nuclear energy safe & environmental friendly. Dr. S. N. Sarangi addressed the gathering on the topic of "Nanoscience and Nanotechnology". Dr. Mallick, SO, IOP delivered a talk on "Research Facilities at Institute of Physics, Bhubaneswar".



(Guests on the Dias during the inaugural function and a group photograph of the participants, speakers and delegates)



(Participants in the Hall, and Prof. Nanda delivering the talk)

xix) Report on Outreach Programme conducted on 25.12.2022 at Mathura, Khallikote, Ganjam, Odisha

Public Outreach program on 'Atomic Energy in the service of Mankind' was organized at Mathura, Khallikote, Ganjam, Odisha on dated 25.12.2022 for the general public of the Khallikote Block. Around 300 Nos. of general public from different Panchayats including ANM, Anganwadi staff, SSG people, NGO people etc. were participated in the programme. The aim of the program was to awareness the general public about the activity of Department of Atomic Energy and Institute of Physics and to draw the attention towards the safe use of Nuclear power and societal applications using nuclear energy. Sri Pratap Ch. Pal. Bhairabi Club welcomed the guests as well as participants.



(Guest and speakers on the Dias , Left -Sri Pratap Ch. Pal, Bhairabi Club, Prof. K. K. Nanda, Director, Prof. P. K. Sahu, Registrar and Dr. S. N. Sarangi, Scientific Officer, Institute of Physics, Bhubaneswar)



(Dr. S. N. Sarangi speaking to audience and a photograph of the delegates and guests)

xx) Outreach programs at Centurion University of Technology and Management (CUTM) Balangir during 27th January 2023

Institute of physics has conducted Public Outreach program on 'Outreach Programme for Science Students' at Centurion University of Technology and Management (CUTM), Balangir as a part of the celebration of AzadikiAmritMohotsav on 27th January 2023. Shri P. Sarangi (Director) CUTM and Prof. Biswal, CUTM) and all faculty members of Centurion University of Technology and Management co-ordinated to organize the program on the behalf of the CUTM, Balangir campus. Around 220 numbers of students were participated in the program. The program was inaugurated by Prof. K. K. Nanda. Prof. Nanda inspired the students by a popular science talks, Prof P. K. Sahu talks about how the Atomic energy and the Nuclear energy can be used for benefit of mankind and Dr. S. N. Sarangi talks about NanoScience and Nanotechnology and experimental facilities available at IOP, Bhubaneswar and how the students and researchers utilise these facilities. At the end Dr. Sarangi, organised few fun science experiments along with Sri B. K. Dash for the students.



xxi) Outreach programs at Women's College, Balangir during 28th January 2023

Institute of physics has conducted Public Outreach program on 'Outreach Programme for Science Students' at Govt. Women's College, Balangir as a part of the celebration of AzadikiAmritMohotsav on 27 th January 2023. Prof. Manoranjan Mishra, Principal and all teaching staffs of Govt. Women's College, Balangirco-ordinated with IOP members for arranging the program in the college. Science students of Rajendra University also took part in the program. 200 numbers of students participated in

the program. The program was inaugurated by Prof. K. K. Nanda. Prof. Nanda inspired the students by a popular science talks. Prof P. K. Sahu talks about how the Atomic energy and the Nuclear energy can be used for benefit of mankind. Dr. S. N. Sarangi talks about Nanotechnology and experimental facilities available at IOP, Bhubaneswar. It was a very successful program.



xxii) "Outreach Programme for Science Students" organized at Jawahar Navodaya Vidyalaya (JNV), Konark, Dist. Puri on 31st March, 2023

Public Outreach program on 'Outreach Programme for Science Students' was organized at at Jawahar Navodaya Vidyalaya (JNV), Konark, Dist. Puri, Odisha on dated 31.12..2022 for the students of JNV, Konark. Around 400 Nos. of students participated in the programme. Inauguration meeting started with the welcome address by the Principal, JNV Konark and Dr. Sachindra Nath Sarangi, Convener, AKAM Committee, IOP introduced the aim of the meeting and welcomed the gathering. All the chaired dignitaries addressed the students and faculties present in the meeting. Prof. K. K. Nanda talked about the recent advances in the topic material Science. Prof. P. K. Sahu delivered a talk on "Atomic Energy and its Applications to Society". Dr. S. N. Sarangi addressed the gathering on the topic of "Nanoscience and Nanotechnology". The aim of the program was to draw the attention of the young minds towards carrier in science, the societal application of Nuclear Science and activities of DAE and IOP, Frontier research in materials science etc.





xxiii) Physics Open Discussions (POD) and POD-Online for students:

Prof. A. M. Srivastava

Physics Open Discussions (POD) was arranged earlier, once a month, for school children at the Institute of Physics where students could ask any question in physics and engage in free discussions. This program is now being conducted online regularly on 3rd Saturday of every month in coordination with Pathani Samanta Planetarium, Bhubaneswar. This is an ongoing program. Following are the details of sessions conducted during period 1st April, 2022- 31st Aug. 2022.

Session 8: 16th April 2022

Youtube Link: <https://www.youtube.com/watch?v=tNQ-sm0qa9I&t=2399s>

Session 9: 21st May 2022

Youtube Link: https://www.youtube.com/watch?v=PDeMJ3Fg_sc&t=7s

Session 10: 18th June 2022

Youtube Link: <https://www.youtube.com/watch?v=6D6OAAcMaXc&t=850s>

Session 11: 23rd July 2022

Youtube Link: <https://www.youtube.com/watch?v=jIUg2rsIz88&t=67s>

Session 12: 27th August, 2022

(Special 12th Session of Physics Open Discussion (POD) on the occasion of "Azadika AmritMahotsav" at IOP Bhubaneswar)

Youtube Link: <https://www.youtube.com/watch?v=WfZy1yQGIXo&t=423s>

xxiv) International Women's Day -2023 celebrated at Institute of Physics

Prof. Shikha Varma as a chairperson of Women cell- IOP, arranged online talk on the occasion of the Women's day on 1st March 2023. This year the theme for International Women's Day focuses on Women and Girls in the development of transformational technology and digital education: DigitALL: INNOVATION AND TECHNOLOGY FOR GENDER EQUALTY". The talk was given by Ms. Rama Sarode, Socio legal Trainer. In her talk on "Embrace Equality Don't let the Gender Measure their Potential" she discussed issues related to the safety of women at work place. The meeting was held in

hybrid mode, with speakers and some IOP members present online and some members present in the lecture hall.

xxv) Popular Talks

Prof. Shikha Varma

- a) Applications with Surfaces and Nanostructures: Sensors and Catalysis "From Surfaces to Nanotechnology to "Nano Bio" at Vigyan Vidushi Program organized by Homi Bhabha Science Center (HBSC) and TIFR (July 2022)
- b) 'Exciting Functional Materials & Applications of Nanoscience' at Indian Association of Nuclear Chemists and Allied Scientists-Eastern Regional Center (IANCAS- ERC) program on 'Wonder Materials, Energy and Radiation' at Rama Devi (RD) University, Bhubaneswar (July 2022)

Prof. Debasish Chaudhuri

- a) Presented an online talk on "Soft matter, living system, and active matter" in a symposium IMPACT-22 on 28 May 2022, organized by S N Bose National Center for Basic Science, Kolkata, as a part of the Azadi Ka Amrit Mahotsav celebration.

4.3. OFFICIAL LANGUAGE

During the period 2022-23 (April-2022 to March, 2023), the following items of the important work relating to the progressive use of Hindi were undertaken by the Official Language Section-

- i. Implementation of the Official Language Policy and the Annual Programme of the Govt. of India: All Sections of the Institute were advised to comply with the provisions of the Official Language Act, Rules and instructions issued thereunder for achieving the targets fixed by the Ministry of Home Affairs, Department of Official Language, in the Annual Programme for the year of 2022-23. Various check-points were also devised for the effective implementation of the Official Language Policy of the Union.
- ii. The Official Language Section acts as a co-ordinator in the event of Official Language inspection of various Sections.
- iii. The Official Language Section also processes nominations of officials for various training courses conducted under Hindi Teaching Scheme by the Department of Official Language, Ministry of Home Affairs. During the period under report, 03 officials were nominated for Praveen Course and 02 officials were nominated for Parangat Course.
- iv. Meeting of the Official Language Implementation Committee: Quarterly meeting of the Official Language Implementation Committee (OLIC) of the Institute are held as per provisions, wherein progress relating to the use of Hindi in official work in the Institute is reviewed and based on discussions therein, effective strategy is worked out for the improvement of progressive use of Hindi and implementation of the official language policy. During the period of three meetings were held regular basis and one meeting could not held due to unavoidable reasons.
- v. During the period under report, apart from the regular translation of routine materials, a number of important and time-bound translation of materials/documents specified in Section 3 (3) of the Official Language Act, 1963 and other parliamentary activities were carried out.

- vi. In consonance with effective implementation of the Official Language Policy and creating awareness of using Hindi in day-to-day official work, "Hindi Pakhwara" was organised from 14.09.2022 to 29.09.2022 in the Institute. During the Pakhwara 05 Hindi competitions were held. Cash Prizes were distributed to the winner employees. Certificate to the winners were also awarded in a "Certificate Award Ceremony" organised in the Institute on 29.09.2022.



(Prof. K. K. Nanda, Director and Prof. P. K. Sahu, Registrar are dais during the Hindi Day Celebration on 14.09.2022)



(Prof. P. K. Sahu, Registrar and Prof. S. Varma, Director (I/c) on dais during "Prize & Certificate Award Ceremony" held on 29.09.2022)

- vii. Hindi Workshop organised: Institute organised 03 Hindi Workshops during the period under report. On 21.09.2022 a workshop was organised on the title "Labour Laws and Govt. Accounts Police". Sri S. Sampat Kumar, Dy Chief Labour Commissioner (Central)), Sri P. K. Rana, Regional Labour Commissioner and Sri Harmanjit Kaur, Asst. Labour Commissioner (Central) were delivered the talks on this topic. On 05.12.2022, a workshop was organised on "Guidance of the parents for academic developmen t of students". Sri A. K. Panda, Principal, KV No.-1, Bhubaneswar and Dr. R. K. Dubey, PGT (Hindi) were delivered on the above cited subject. On the occasion of the World Hindi Day Celebration, a Hindi Workshop was organised on 10.01.2023 at IREL (India) Ltd. OSCOM jointly.



(Delegates during the Hindi Workshop organised on 21.09.2022)



(Prof. K. K. Nanda, Director felicitating the Guests during Hindi Workshop held on 05.12.2022)



(Prof. K. K. Nanda, Director during the meeting of Town Official Language Implementation Committee (Central) held on 29.08.2022 in the Institute)



(Delegates on dais during the World Hindi Day Ceremony held on 10.01.2023)

4.4. AZADI KA AMRIT MAHOTSAV (AKAM) PROGRAM

DAE Iconic week under "AzadiKaAmritMahotsav" program

As a part of the DAE Iconic week, the Institute of Physics, Bhubaneswar organized a weeklong 7 days various activities starting for, school students, college students, Institute stu senior college students. Around 200 students from various colleges, and universities in Odisha have participated in the program. Bark Prof. A.K. Tyagi, Chemistry division, BARC, Mumbai delivered a popular speech on Career in Science and had an interesting interaction with the students. Prof. Tyagi cleared various doubts asked by students. Ms. Manish Patel and Ms. Aisa Khatoon, IOP research scholars also gave a scintillating academic speech in the morning session. In the afternoon session, Prof. K.K.Nanda, Director, IOP delivered a popular talk on Photoluminescent materials for societal applications, Dr. S. N. Sarangi demonstrated an experiment on Light emission. The session

concluded with RashtiraGana. By the support of all staff members of IOP, the program was completed successfully.

i) DAE ICONIC WEEK DATED 24.08.2022 : (Science awareness program for school and jr. college students)

Institute of Physics, Bhubaneswar organizes a Science Awareness program for school and junior college students on 24.08.2022. Around 120 students from different schools and colleges of Odisha participated in the program. The students visited all the experimental laboratories of Institute and interacted with faculty members and scientific officers of the Institute. The program ended with an interesting quiz program among the students and the prize distribution was made during the competition.



(Director, Registrar delivering their Inaugural Talk)



(Student Session and lab Visit)



Group Photo of Participants

ii) **DAE ICONIC WEEK DATED 25.08.2022: (academic program for sr. college & university students)**

As a part of the DAE Iconic week, the Institute organized one day academic science awareness program for senior college students. Around 200 students from various colleges and universities of Odisha have participated in the program. Prof. A.K. Tyagi, Director, Chemistry Group, BARC, Mumbai delivered a popular lecture on the "Career in Science" and had a close interaction with the students. Mr. Manish Patel and Ms. Aisha Khatun, Research Scholars of IOP also gave scintillating academic talk in the morning session. In the afternoon session, Prof. K.K.Nanda, Director, IOP delivered a popular talk on "Photoluminescent materials for societal applications". Dr. S. N. Sarangi, SO/D of the Institute demonstrated an experiment on Light Emission. The session concluded with National Anthem. By the support of all staff members of IOP, the program was completed successfully.



4.5. **Sports and Cultural Activities**

Along with the research activities, the sports and cultural activities have been promoted through different sports and cultural programs to keep all the members physically fit. To carry out different sports and cultural activities a committee was formed. Also IOP Employees Welfare Society support the committee in organizing different

Followings are the different activities conducted during the year 2022-23:

1. A Football match was conducted on 15th August, 2022. This was a friendly match between Team A (Faculties and Doctoral scholars) and Team B (Staffs of the Institute). The match was tie. Around 110 spectators were there to enjoy the football match. It was organized by IOPEWS.
2. Also a friendly Cricket match was conducted on the occasion of 26th January, 2023. This match was played between Team A (Faculties and Doctoral scholars) and Team B (Staffs of the Institute). It was a very interesting match. Team A won the match. Around 80-viewers joined and made the event successful.
3. During the year 2022-23, Sri Jyoti Ranjan Behera had selected for Odisha to play National Cricket Championship for Deaf against Bengal Team. It was a pride moment for Institute.
4. In this year, many members of IoP had selected to play in the various events of Zonal selection matches of the XXXVII Annual DAE Sports and cultural meet. Among them Sri Jyoti Ranjan Behera selected to play in the final of the DAE Annual Sports and Cultural meet for Table Tennis, organized by BARC, Visakhapatnam and got fifth position.