



4th QUARTERLY REPORT ON AZADI KA AMRIT MAHOTSAV (AKAM) PROGRAM

(June 2022 - August 2022)

As per the directive of the Department of Atomic Energy, Institute of Physics, Bhubaneswar is celebrating India's 75th year of Independence as '*Azadi Ka Amrit Mahotsav*'. Following activities have been carried out under this program during June 2022 to August 2022.

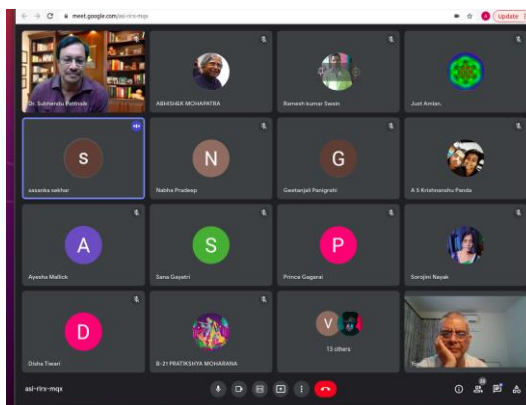
PART A

June 2022

(1) Scientists-School Students online interaction program: 10th Session of Physics Open Discussion (POD) at IOP Bhubaneswar

The 10th Session of the Monthly Physics Open Discussion (POD) online program at IOP Bhubaneswar was held on 18th June 2022 during 5:30 pm – 7 pm. The program was attended by about 26 school students from all over Odisha from class VI to class XII on Zoom online platform. Questions ranging from basic physics concepts (electromagnetic waves, speed of light calculation and measurement, heat and radiation, thermal equilibrium), to frontier areas of physics (electron-positron pair production, supernova explosion, time and gravity, night vision camera, etc.) were discussed. Students asked questions in English, Hindi, and Odiya.

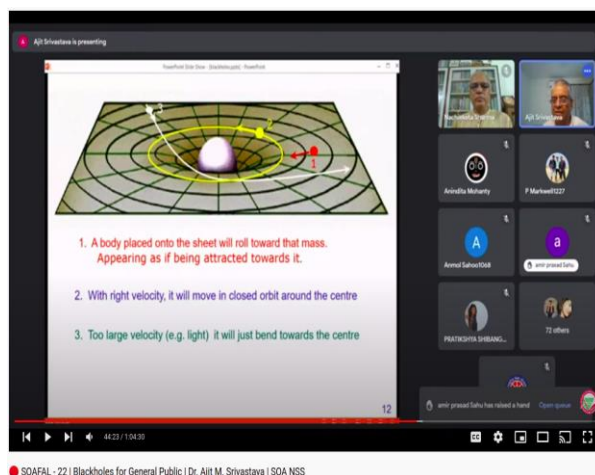
POD Online Session No. 10, June 18th, 2022



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

(2) Popular Science Talk on “Black Holes for General Public” in the SOAFAL Series

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. 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=PLBZf15tRid2v7FQjJokHu1_ftc_h1Kwcr&index=6

(3) A cultural program organized on the eve of Raja Festival on 15.06.2022

A cultural program was celebrated at the Institute of Physics campus on the eve of “Raja Mahotsav” on 12.06.2022. The campus children participated in different cultural

activities such as group song, group dance, instrumental music and singing by individuals. The performance by the kids was wonderful. The IOP staff members Smt. Saubhagya Laxmi Das and Dr. S. N. Sarangi recited their poems and the songs were performed by Mr. Bhaskar Misra and Mr. Kailash Chandra Jena. These were highly appreciated by the audience. The “Raja Mahotsav” program was coordinated by Dr. S. N. Sarangi and Mr. Rajesh Mohapatra. The other members of Institute of Physics, Mr. B. K. Mishra, Smt. Lipika Sahoo, Mr. Brundaban Mohanty, Mr. Pramod Senapati, Mr. Jahangiri Khan, and Mr. Rajan Biswal put their efforts to make the programme successful.



(Director, Prof. K. K. Nanda delivering his speech and Mrs. Nanda distributing a token of memento to the participants in “Raja Mahotsav” celebration)

(4) A cake (Pitha) Competition organized on the eve of Raja Festival on 15.06.2022 on 21st June 2022

A cake (Pitha) Competition was organized on the occasion of Raja Festival in the dining shed close to the Library and Auditorium at 5.30 PM on 15.06.2022. All variety of cakes (pitha) were prepared by the Institute family members and displayed for the competition. Enthusiastic visitors from IOP campus enjoyed these wonderful pithas.



(Participants with Director, Prof. K. K. Nanda)

(5) Scientists-School Students online interaction program: 11th Session of Physics Open Discussion (POD) at IOP Bhubaneswar

The 11th Session of the Monthly Physics Open Discussion (POD) online program at IOP Bhubaneswar was held on 23rd July 2022 during 5:30 pm – 7 pm. The program was attended by about 5 school students from Odisha from class VI to class XII on Zoom online platform. Questions ranging from basic physics concepts (quantum mechanics, uncertainty principle, wave function, its collapse and probability, notion of infinity, hotel paradox,), to frontier areas of physics (quintessence and dark energy, multiverse theory of quantum mechanics, focusing of light rays in gravity, black hole event horizon, singularity theorem, worm holes, Hawking radiation etc. from internet exposure of students) were discussed. Students asked questions in English, Hindi, and Odiya.

POD Online Session No. 11, 23rd July, 2022



YouTube link: <https://www.youtube.com/watch?v=jIUg2rslZ88&t=67s>

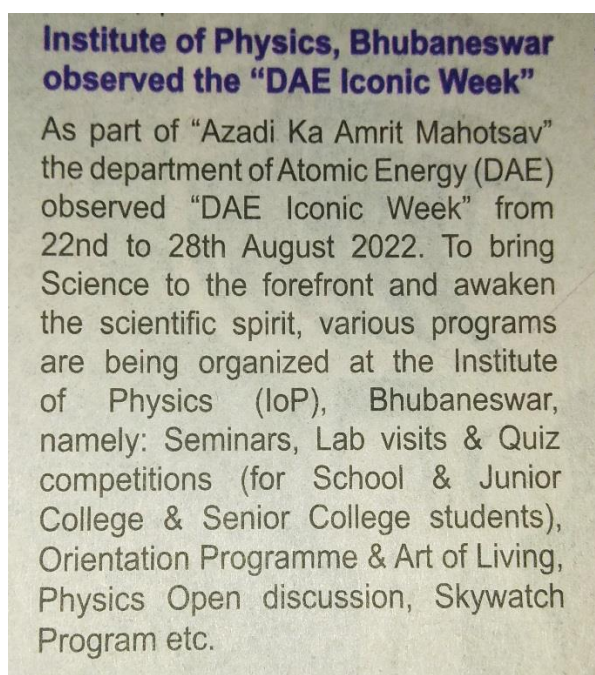
(6) **2nd Motivational Seminar of IPEWS “Mordern Number System : Finite and Transfinite” on 21st July, 2022**

A motivational talk was arranged on 21st July, 2022 in the Lecture Hall of the Institute. The title of the talk was “**Mordern 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.



(Poster for the general seminar)

(7) **Celebration of DAE Iconic Week from 22nd August, 2022 to 28th August, 2022 as a part of Azadi Ka Amrit Mahotsav.**



*Press release on DAE
Iconic Week as part of
“Azadi Ka Amrit Mahotsav”
(22-28 August 2022)
Times of India 29th August,
2022*

A. REPORT OF THE DAE ICONIC WEEK DATED 22.08.2022 (Plantation)

The Institute of Physics, Bhubaneswar celebrated the DAE Iconic Week as a part of the Azadi Ka Amrit Mahotsav. The inaugural meeting of the proposed week was observed on 22.08.2022 in the conference hall of the Institute. Around 100 staff members of Institute including research scholars participated in 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. Karuna Kar 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.



(Banner and plantation by Director, K. K. Nanda)

B. REPORT OF THE DAE ICONIC WEEK DATED 23.08.2022

As a part of the DAE Iconic week, the Institute organized a blood donation camp as the second day activity. The camp was hosted by "The Blood Bank", Capital Hospital, Bhubaneswar. The camp started at 10:30 am in the morning and continued till 3.0 pm afternoon. Prof. K. K. Nanda, Director inaugurated the blood donation camp and Prof. P. K. Sahu, Registrar, faculty members, several other staff members and students participated in the blood donation camp. The program was successfully completed in presence of professional doctors and blood donation camp team.



(Banner and Group Photos with blood donors and Director, K. K. Nanda)

C. REPORT OF THE DAE ICONIC WEEK DATED 24.08.2022

As a part of the DAE Iconic week, a Science Awareness Program was organized at Institute of Physics, Bhubaneswar 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.



(Caption: Academic Program for Jr. Student Banner, Director, Registrar delivering their Inaugural Talk)



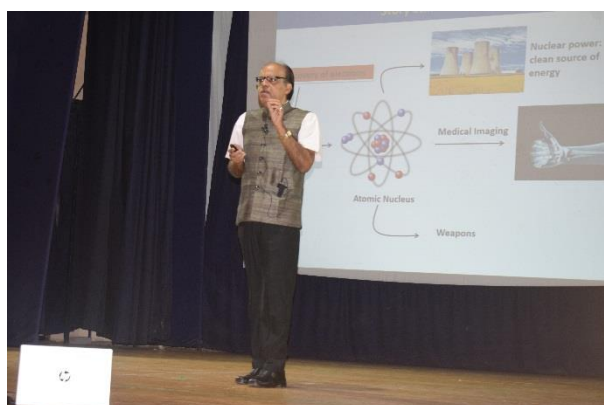
(Caption: Group Photo of participants)



(Caption : Some winner receiving Prizes during Quiz program)

D. REPORT OF THE DAE ICONIC WEEK DATED 25.08.2022

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.



(Caption : Prof. A. K. Tyagi, BARC on interaction session with participants)



(Mr. Manish Patel and Ms. Aisa Khatoon, 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)

E. REPORT OF THE DAE ICONIC WEEK DATED 26.08.2022

The Institute dedicated the 5th day of the DAE Iconic Week to the program ANKUR which is run by scholars of IOP for children who live in the nearby Basti/Slum area. Volunteers from the research scholars of the Institute organized the visit of about 35 children of Standard-III to Standard-VIII from Biswaswar Basti in two slots. There were various scientific awareness activities, explanatory film on Chandrayaan, Trigonometry, scientific recreational activities and many other magical scientific experiments. IOP researchers helped children to draw various trigonometric figures. Prof. A.M. Srivastava explained the basic principles of lens and magnet.

Prof. Srivastava also advised the kids by motivating stories 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.



(Banner and Group Photos with ANKUR (Children lives in the nearby Basti/Slum area) and Director, K. K. Nanda)

F. REPORT OF THE DAE ICONIC WEEK DATED 27.08.2022

As a part of the DAE Iconic week, Institute of Physics, Bhubaneswar organized 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 Prof & Dr. Susant Saila has given a seminar on Cardiology. Both the doctors have also clarify 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.



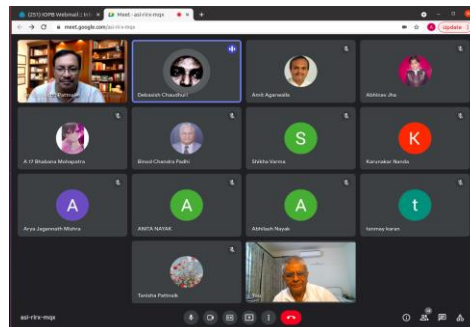
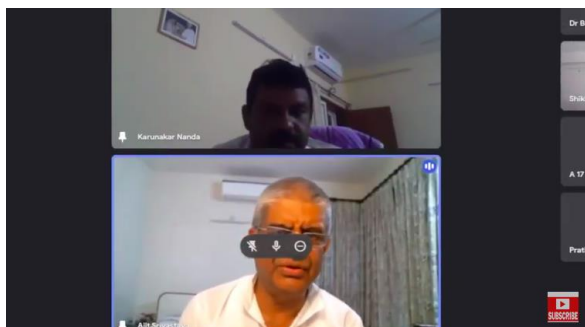
(Banner and Group Photos with Cardio, Ortho doctors and Director, K. K. Nanda)

G. REPORT OF THE DAE ICONIC WEEK DATED 28.08.2022

Scientists-School Students online interaction program: Special 12th Session of Physics Open Discussion (POD) on the occasion of “Azadi ka Amrit Mahotsav” at IOP Bhubaneswar

The 12th Session of the Monthly Physics Open Discussion (POD) online program at IOP Bhubaneswar was held as a special session of POD on 27th Aug. during 5:30 pm – 7 pm as part of the ongoing one-week event at IOP for Azadi Ka Amrit Mahotsav celebration in which several scientists of IOP participated to address queries of young students. At the start of the program, Prof. K.K. Nanda, Director IOP, gave opening statements. Subsequently discussion session started with students asking questions directly, or posting them on chat. Questions in basic physics concepts related to notion of polar and axial vectors, angular and linear velocities in rigid body rotation, shell theory in atomic physics, electromagnetism, etc. Advanced questions in frontier areas of physics related to conceptual issues on uncertainty principle in quantum mechanics, gravitational waves, universe expansion, galaxy structures and its center, twin paradox, wormholes, black holes, etc. Some questions of more general nature were also discussed such as nature of global warming, theory of evolution, reusable rockets etc. Discussions were held in English, Hindi, and Odiya.

Special POD Online Session No. 12, 27th August , 2022



YouTube link: <https://www.youtube.com/watch?v=WfZy1yQGIX>

H. REPORT OF THE DAE ICONIC WEEK DATED 28.08.2022

As a part of the DAE Iconic week, On the 7th day of the institute, 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 "Azadi Ka Amrit Mahotsav". About 40 children participated in this program. Later a scientific presentation was given by the children of the campus, out of which the names of two children were selected to give their scientific presentation before the judge. Mr. Sarfaraz Khan and Ms. Subhrangi gave their scientific presentation. In order to encourage the little ones for their works also, they were given the "Azadi Ka Amrit Mahotsav 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 of the IOP. The evening's Skywatch program was canceled due to bad weather. The program was successfully completed with the support of all the staff members of IOP.



(Banner and Group Photos of campus children participated in drawing completion with other Director, K. K. Nanda)



(Photograph of Concluding Session)