



3rd QUARTERLY REPORT ON AZADI KA AMRIT MAHOTSAV (AKAM) PROGRAM

(March 2022 - May 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 March 2022 to May 2022.

PART A

March 2022

(1) International Women's Day -2022 celebrated at Institute of Physics (IOP), Bhubaneswar on 8th March 2022

On the occasion of the **International Women's Day (IWD)** talks were arranged by Women-cell of IOP on 8th March 2022. The talks were given by Ms. Rama Sarode, Socio legal Trainer and Prof. Subhra Chakraborty, Director, Plant and Genome Research, N. Delhi. The meeting was held in hybrid mode, with speakers and some IOP members present online and some members present in the lecture hall (block-A) of IOP.

International Women's Day

Institute of Physics, Bhubaneswar

#IWD 2022-
Gender Equality Today for a Sustainable Tomorrow

Program

AKAM

8 March 2022

4:05 pm : Welcome by Prof. Shikha Varma, Chairperson Women-Cell, IOP

4:10 pm: Prof. K.K. Nanda, Director, IOP

4:15 pm: Ms. Rama Sarode, Socio-Legal Consultant and Trainer,
Secretary -SAHAYOG, Director -MGZ EDYTECH Pvt. Ltd., Pune

Developing an Inclusive Culture to make Safe Workplace

5: 00 pm: Prof. Subhra Chakraborty, FNA, FASc, FNASc, FNAAS, J C Bose National Fellow
Director, National Institute of Plant Genome Research, N. Delhi

Decoding Multi-host Resistance: Divergent Regulatory Networks in Fungal Disease

5:45 pm : Tea

Venue: Lecture Hall, Block-A

Talks in online Mode: meet.google.com/ctt-sxea-ker

(Poster for Women's day Celebration)

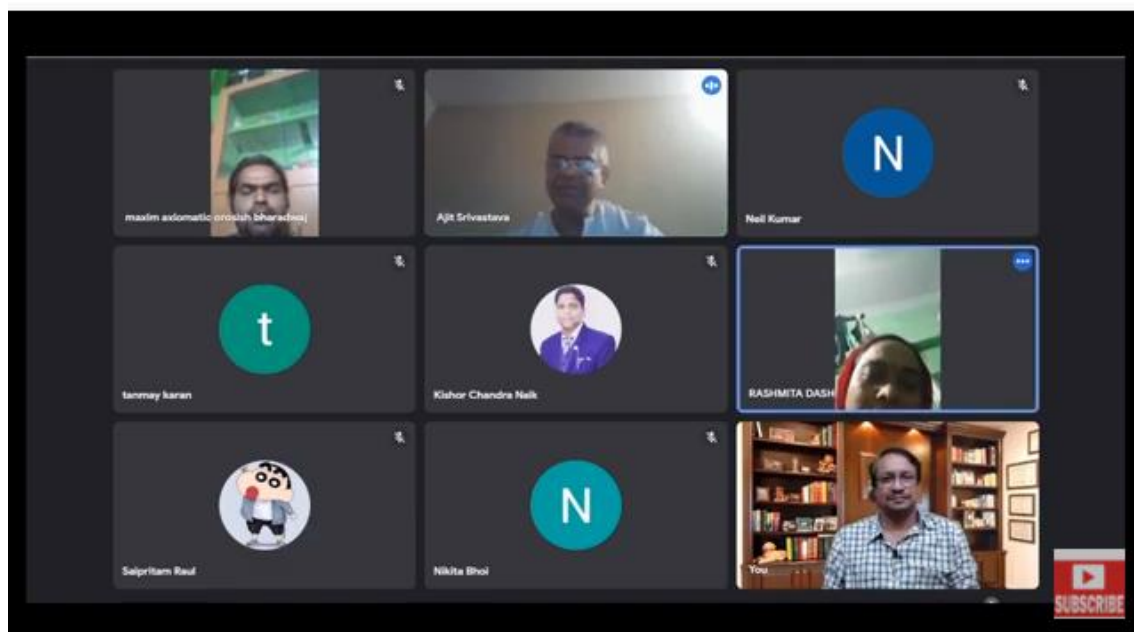
At the outset, Prof. Shikha Varma, Chairperson Women Cell, IOP welcomed everyone and thanked all the distinguished speakers for enthusiastically agreeing for giving talk on this occasion. She thanked Prof. K.K. Nanda, Director, Mr. R.K. Rath, Registrar, administration, computer center members, all women cell members and all IOP members for their enthusiasm and support. Prof. K.K Nanda, Director, in his address presented the important features of the Women Cell and Internal Complaints Committee (ICC) of IOP. He mentioned about the necessity of equity in various fields. He highlighted the roles and efforts undertaken by IOP scientists in encouraging girls and women towards career in science. Ms. Rama Sarode (Director, MGZ-EDYTECH, Pvt. Ltd., Pune), gave a talk on “**Developing an Inclusive Culture to make Safe Workplace**” where she discussed issues related to the safety of women at work place. Prof. Subhra Chakraborty (Director, National Institute of Plant Genome Research, N. Delhi) gave a talk on “**Decoding multi-host resistance: Divergent regulatory networks in fungal disease**”).



(IWD program: IOP members in the lecture hall)

(2) Scientists-School Students online interaction program: 7th Session of Physics Open Discussion (POD) at IOP Bhubaneswar

The 7th Session of the Monthly Physics Open Discussion (POD) online program at IOP Bhubaneswar was held on 19^h March 2022 during 5:30 pm – 6:30 pm. This time program was attended by 9-10 school/college teachers and some researchers (with Holi festival and exams for students) on Zoom online platform. Questions in basic physics concepts related to Newton's laws, circular motion, gravitational potential energy etc. Advanced questions in frontier areas of physics related to large distance physics of universe, universe expansion, nuclear fission, matter-antimatter asymmetry etc. Questions were asked in English, Hindi, and Odiya.



YouTube link: <https://www.youtube.com/watch?v=OofaDg5zyvM&t=2515s>

(3) Popular Science Talk in Hindi at Science Awareness Workshop

Prof. A.M. Srivastava participated in the Science Awareness Workshop at Allahabad University on 25th March, 2022. Prof. Srivastava gave a popular science talk in Hindi (with slides prepared in Devanagari) on “Brahmand Ki Sanrachna” (Structure of the Universe). The talk was attended by B.Sc., M.Sc. Students, research scholars, faculty of Physics Dept. and invitees from other Departments.

Science Awareness Workshop
Organized Under the
“Synergistic Training Program Utilizing Scientific and Technological Infrastructure (STUTI)”
initiative of the DST- PURSE, University of Allahabad
on 25 March 2020, 10Am. to 2.00 PM
Venue : Hall No. 18, Department of Physics, University of Allahabad

Popular Talks

Chair Person & Chief Guest
Prof. Sangita Srivastava
Non bio
Vice-Chancellor
University of Allahabad

1. ब्रह्माण्ड की संरचना
Prof. Ajit Mohan Srivastava
Institute of Physics, Allahabad

2. The art of dealing with the natural calamities and science communication
Prof. Dinesh Kumar Srivastava
National Institute of Advanced Studies, Bhopal

Organized by
DST- PURSE Project Implementation Group
University of Allahabad

1. Prof. I.R. Siddiqui 4. Prof. R.S. Yadav
2. Prof. S.I. Rizvi 5. Prof. Shanty Sundaram
3. Prof. V.K. Tiwari 6. Prof. Suneet Dwivedi
(Co-ordinator DST-PURSE) 7. Prof. R.K. Anand



अमृत कलश टाइम्स

प्रयागराज शनिवार 26 मार्च 2022

इविवि: विज्ञान जागरूकता कार्यशाला का आयोजन

प्रयागराज। डी०एस०सी०- परल की योजना कियेजिक ट्रेनिंग प्रोग्राम यूटीएलएजिंग सांख्यिक एण्ड टेक्नोलॉजिकल इन्फोस्ट्रक्चर (एनआईटी) के अन्तर्गत इलाहाबाद विश्वविद्यालय के भौतिकी विभाग के तत्वाधान में 25 मार्च को दिन में 10 से 2 बजे तक विभाग के डी० व्याख्यान कक्ष क्रमांक-18 में विज्ञान जागरूकता कार्यशाला का आयोजन किया गया। इस कार्यक्रम के अन्तर्गत दो व्याख्यान आयोजित किये गये। ब्रह्माण्ड की संरचना एवं व्याख्यान में विज्ञान संस्थान, भुवनेश्वर के विख्यात भौतिकी विज्ञानी और पूर्व निदेशक प्रोफेसर अजित मोहन श्रीवास्तव ने ब्रह्माण्ड के उत्पन्न, आइन्स्टाइन का मुल्यकाशन विज्ञान, अणुन के नियमों की खोज, मुल्लेख्य तर्कों, आकाशगंगा और भौतिकीयों का

ब्रह्माण्डीय पैमाने पर समांग और सन्देही विस्तार, अणुन ऊर्जा (डार्क एनर्जी) ब्रह्माण्ड का त्वरित प्रसार, बिग-बैंग सिग्नलरिटी क्वांटम फ्लिक् और आकाशीय संरचनाओं का निर्माण, बिग-बैंग का सुभन तरंगों के रूप में अवरोध आदि पर सरल व सहज किन्तु महान बर्णन की। डी० एन० वी० कमसपदह 'पजी जीम' द जनरल स बंस उपजपमें 'दक' बमदवम बयउत्तनदयजपदह इस व्याख्यान में प्रोफेसर विष्णु श्रीवास्तव ने कोरोना जैसी महामारी प्राकृतिक व मानवीय विभीषिकाओं के कठिन समय में जनसंख्या को अपने जीवन को संतुलित ढंग से जीने की कला के बारे में अवगत कराया। उन्होंने इस व्याख्यान के माध्यम से बताया कि किस प्रकार विज्ञान ने इन महामारियों से दुनिया को बचाया

और आज भी बच रहा है। प्रोफेसर श्रीवास्तव की इस विया पर प्रोफेसर राममूर्ति और प्रोफेसर जैलेन नायक के बहुचर्चित पुस्तक (तज 'दक' बमदवम व 'उदहपदह वनइसपब' लपी हम सभी को पढ़नी चाहिए। इस व्याख्यान को लेकर इलाहाबाद विश्वविद्यालय के एम०एस०सी० और डी०एस०सी० के विद्यार्थियों में खासी उत्सुकता देखने को मिली। दोनों हाल छत्र-छात्राओं से ख्यालजय भरे हुए थे जिनमें टेलीकारिडम की सहायता से जीवत प्रसार किया जा रहा था। कार्यक्रम के अन्त में बच्चों ने प्रोफेसर अजित मोहन श्रीवास्तव से बहुतेरे प्रश्न पूछे। कार्यक्रम की अत्यन्त विज्ञान संकाय के डी०, प्रो० केसर श्रीवास्तव ने की। फुलरि के प्रतिनिधि के रूप में प्रो० रीयद रिजवी ने कार्यक्रम को अपनी

सुभकागना प्रेषित की। कार्यक्रम का संचालन भौतिकी विभाग के विभागाध्यक्ष प्रो० विवेक कुमार शिवारी ने किया। कार्यक्रम में विश्वविद्यालय के वरिष्ठ प्रोफेसर विनोद प्रकाश, प्रो० पंकज कुमार, अय्या, राजनीति विज्ञान विभाग, प्रो० आर्दो० आर० सिद्दीकी, अय्या, रसायन विज्ञान विभाग, प्रो० पी० के० टण्डन, प्रो० ए०एन० विश्वेन्द्र आदि की प्रेरक उपस्थिति रही। कार्यक्रम को सफल बनाने में विभाग के विभिन्न प्रोफेसर, अतिथि प्रवक्ताओं, शोध छात्रों की महत्वपूर्ण भूमिका रही। प्रो० लोकेन्द्र कुमार ने वाद-वियाद प्रतियोगिता प्रो० प्रतिभा, में विज्ञान प्रश्नोत्तरी और प्रो० राजकुमार आनन्द, ने पोस्टर प्रतियोगिता का आयोजन कराया जिसके विजेताओं को प्रमाण पत्र वितरित।



YouTube link: <https://www.youtube.com/watch?v=TaqRjvBt6MM>

(4) DAE-BRNS Outreach Theme Meeting on “Societal Applications of Nuclear Science and Technology

A DAE-BRNS Outreach Theme Meeting on “Societal Applications of Nuclear Science and Technology” (SANST-2022)” was jointly organized by Department of Atomic Energy (Bhabha Atomic Research Centre), Institute of Physics (IOP), National Institute of Science Education and Research (NISER) and Maharaja Sriram Chandra Bhanja Deo (MSCBD) University, Takatpur, Baripada, Odisha, in association with Indian Association of Nuclear Chemists and Allied Scientists (IANCAS) during March 25-27, 2022 to commemorate Azadi Ka Amrit Mohotsav. The meeting covered domain-specific lectures and demonstration of the products from the concerned experts in DAE. More than 150 participants (mainly faculties of Science disciplines, Research Scholars from various academic/research institutes of Odisha) and 25 experts participated in this deliberations. In addition, a few faculties/researchers participated in the meeting online (virtual) mode. The technical program consisted about 15 keynote/invited talks by experts from DAE followed by two

experiments. An Exhibition of Outreach Posters was arranged for the benefit of all participants. Nearby College faculty members and students were invited to visit Outreach posters and interact with the experts from DAE (BARC, IOP and NISER). The deliberations and discussions would be instrumental in enriching the existing knowledge to create strong linkage between technology and innovative policies for the overall societal development and welfare. We thank all experts/resource persons for their timely help and support in giving abstracts of talks and sparing their valuable time. Eminent personalities, Prof. A.K. Mohanty, Director, BARC and Chair, Prof. K. K. Basa, Hon'ble vice chancellor, MSCB University, Baripada. Prof. K. K. Nanda, Director, IOP, Prof. S. Panda, Director, NISER, and other dignitaries from BARC and DAE, Dr. R. Acharya and Dr. P.K. Pujari Dr.A. K. Tyagi, Dr.S M Yusuf, Shri S.K. Jakhotiya, Dr. T.K. Ghanty, Shri M.K. Sapra, Smt. Smita S. Mule, Dr.Soumitra Kar &Shri A. K. Adak, Dr.Raghunath Acharya, Dr.Prasun K. Mukherjee and T.R. Ganapathi, Dr. S. Gautam, Dr.B.K. Das, Dr. Pawan Kumar Agrawal delivered their talk on the Societal Applications of Nuclear Science and Technology. MSCB University, Baripada, extended all possible support and cooperation in making this Outreach Theme Meeting a reality.



(All the dignitaries on dais, Member participated from IOP with Honorable VC MSCB University, Baripada, Inagural speech by Prof. Nanda and talk delivered by Prof. Nanda)

April 2022

(5) Popular Science Talk in the Wissenaire'22 program at IIT Bhubaneswar

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.

(6) 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.



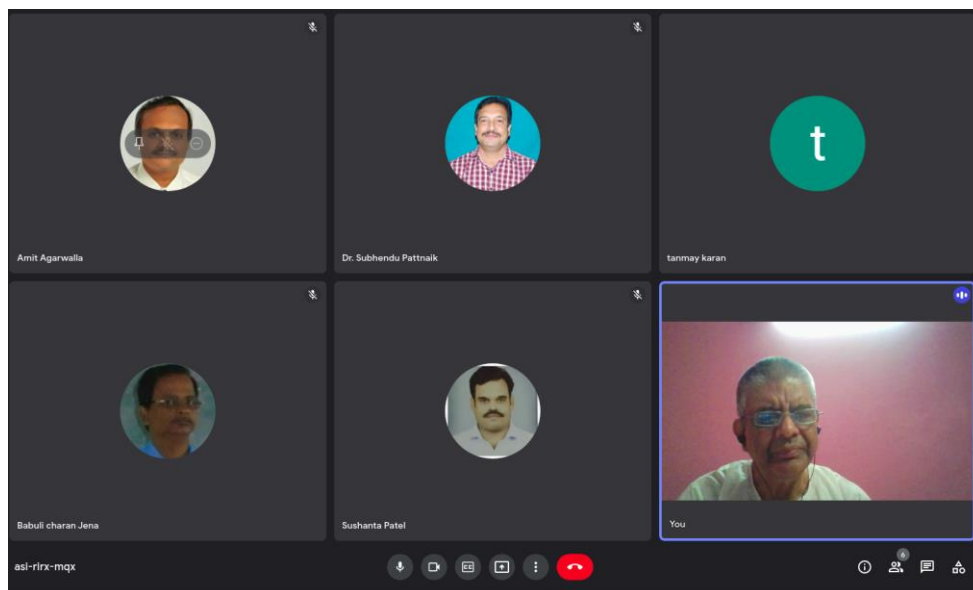
(A group photograph of the students who visited IOP on 13.04.2022)

(7) Scientists-School Students online interaction program:

8th Session of Physics Open Discussion (POD) at IOP Bhubaneswar

The 8th Session of the Monthly Physics Open Discussion (POD) online program at IOP Bhubaneswar was held on 16th April 2022 during 5:30 pm – 6:30 pm. The program was attended by about 10 school students from Odisha from class VI to class XII on Zoom online platform. Questions in basic physics concepts related to Faraday's law, Lorentz contraction, rigid body rotation, torque, theory of relativity, etc. Advanced questions in frontier areas of physics (from internet exposure of students) related to General relativity, equivalence principle, wormholes, negative mass-energy, etc. Students asked questions in English, Hindi, and Odiya.

POD Online Session No. 8, April 16th, 2022



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

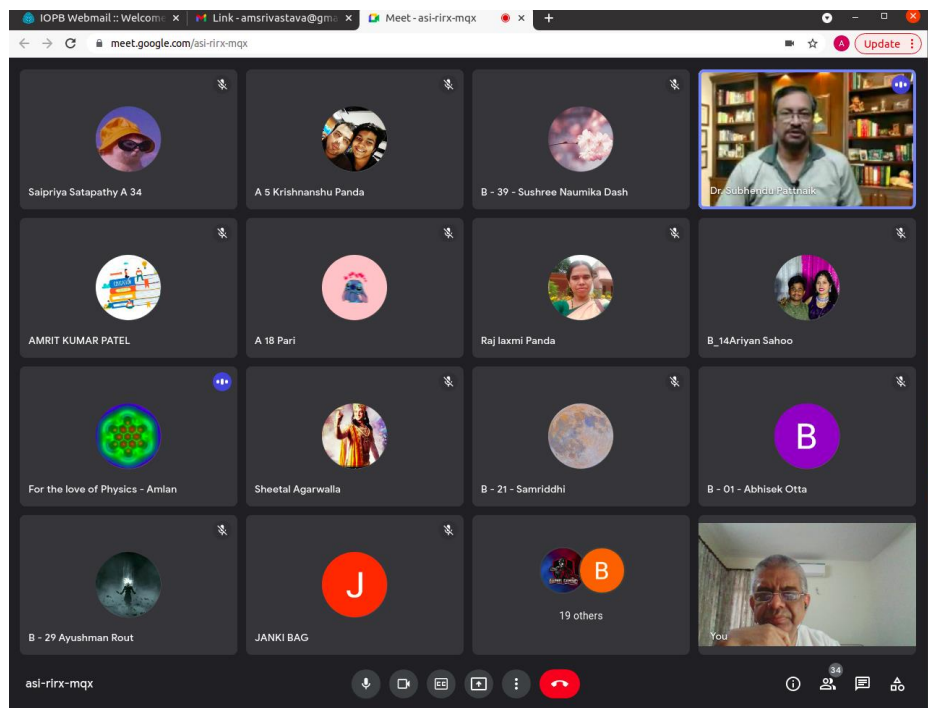
May 2022

(8) Scientists-School Students online interaction program:

9th Session of Physics Open Discussion (POD) at IOP Bhubaneswar

The 9th Session of the Monthly Physics Open Discussion (POD) online program at IOP Bhubaneswar was held on 21st May 2022 during 5:30 pm – 6:30 pm. The program was attended by about 35 school students from all over Odisha from class VI to class XII on Zoom online platform. Questions in basic physics concepts related to dissipation and sound waves, shadows, parallel electrical circuits, nuclear binding energy, nuclear fusion, relativistic mass, how physical laws are established, mirror polishing, time dilation, nature of friction, etc. Advanced questions in frontier areas of physics (from internet exposure of students) related to General relativity, current flow and zero temperature, photon-photon interaction, neutrino mass and oscillations, origin of life on earth, etc. Students asked questions in English, Hindi, and Odiya.

POD Online Session No. 9, May 21st, 2022



YouTube

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

(9) Prof. Debasish Chaudhuri presented an invited lecture at S N Bose National Center for Basic Sciences, Kolkata

Prof. Debasish Chaudhuri presented an invited lecture at S N Bose National Center for Basic Sciences, Kolkata on "Soft Matter, Active Matter and Biology" on 28th May 2022. He has presented it as a part of the program "IMPACT2022", which was a part of their AKAM celebration. This was an online lecture (over google meet).



(The screenshot of Prof. Debasish Chaudhuri's presentation)

(10) COVID-19, Booster Dose/Precaution Dose Vaccination Camp at IOP Campus

Institute of Physics in association with M/S. Simpleekare Health Pvt. Ltd., N2/19, IRC Village, Bhubaneswar – 751 015 organized a COVID-19, Booster Dose/Precaution Dose Vaccination Camp on 27.05.2022 for 18 yrs & above for IOP personnel in IOP Auditorium. Director, Prof. K. K. Nanda inaugurated the program. The program was coordinated by Registrar Mr. Rushi Kumar Rath. Volunteers from IOP, MR. Rajesh Mohapatra and Mr. Pramod Kumar Senapati managed the program and the camp ended up smoothly with the help of professionals from M/S. Simpleekare Health Pvt. Ltd. Bhubaneswar.



(Director, Prof. K. K. Nanda inaugurating the COVID-19, booster dose/precaution dose vaccination Camp and eye care camp on 27.05.2022)

**(11) Eye Care Camp by M/S. LAWRENCE & MAYO on 27/05/2022
for Institute of Physics Members.**

Institute of Physics in association with M/S. LAWRENCE & MAYO conducted a primary eye care camp for Institute of Physics members on 27/05/2022 Friday at IOP Auditorium. Director, Prof. K. K. Nanda inaugurated the program. The program was coordinated by Registrar Mr. Rushi Kumar Rath. The skilled Optometrist made the following eye tests for IOP members: Determination of Case History (Based on Age, Health, Patterns, Lifestyle, etc), Visual acuity test, Refraction by Autorefractometer, Subjective refraction using Snellen's chart, Cataract Screening, Recommendation of best-suited lenses & frames, Every patient will get a final prescription of their current power, along with Product Display of a wide range. Expert counseling on vision problems and valuable eye care tips was given.



(Director Prof. K. K. Nanda with the Optometrist team and other IOP members)

(12) Popular Articles

Prof. Saptarshi Mandal has contributed a popular article on “Story of metal, semiconductor and insulator”. The following is the links for this popular article.

<https://www.iopb.res.in/AKAM/Saptarshi-AKAM.pdf>