



The following activities were successfully organized at Institute of Physics, under Azadi Ka Amrit Mahotsav (AKAM) program during October 2021.

### **(1) Tree Plantation and cleanliness drive under Swachhta Hi Sewa campaign by Institute of Physics , Bhubaneswar**

Under the ongoing “Azadi Ka Amrit Mahostav” campaign, Staff members of the Institute carried out Tree Plantation at Institute on the occasion of “Gandhi Jayanti” on 2<sup>nd</sup> October, 2021. Nearly 30 staff members including Director Prof. Karunakar Nanda participated in the campaign and around 20 trees of different varieties of guava were planted.

(a)



(b)



(c)



*Image: a) Prof. K. K. Nanda, Director planting a tree, b) Staff members are cleaning the roads, c) Prof. K. K. Nanda, Director cleaning the roads*

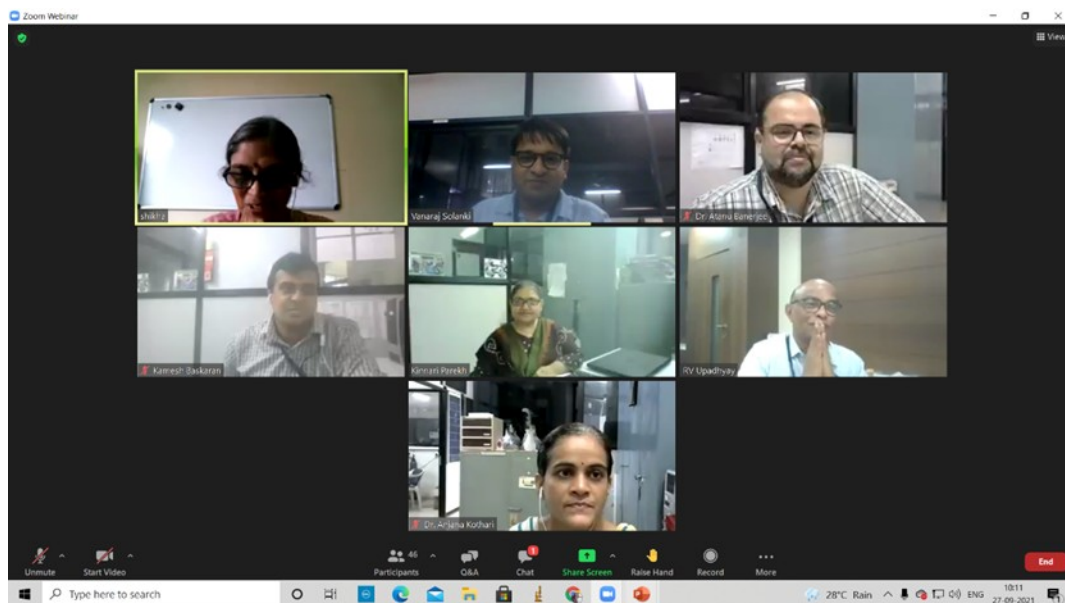
Besides, a cleanness drive was also undertaken in the premises and dry leaves from approached roads were collected for appropriate disposal.



*Image: A group photograph of the staff members who participated in the tree plantation and swachhata campaign.*

## **(2) Four Lectures on the theme of “Nanostructures and Sensors” at Charotar University of Science and Technology, Changa, Gujarat,**

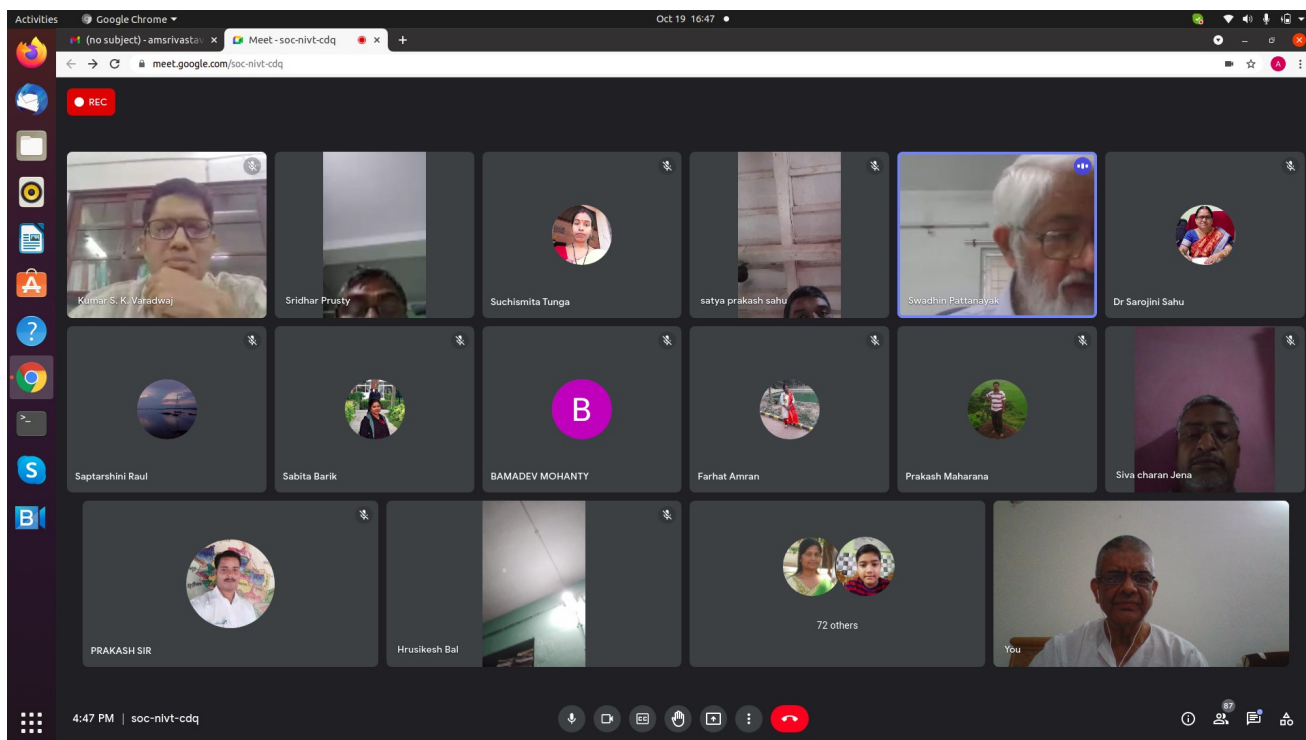
Prof. Shikha Varma from IOP gave four lectures on the theme of “Nanostructures and Sensors” to BSc, MSc students as well as research scholars and faculty at Dr. K. C. Patel Research and Development Centre, Charotar University of Science and Technology, Changa, Gujarat, during 27<sup>th</sup> to 29<sup>th</sup> September and 4<sup>th</sup> October 2021. The motive of these Endowment Chair Lectures was to discuss and motivate young students as well as to foster the academic excellence and enhance interaction with faculty members and research scholars. In all, nearly 60 students from B.Sc and M.Sc batches attended these lectures. In addition, about 40 research scholars and about 14 faculty also attended these lectures.



*Image: Prof. Shikha Varma gave lectures on the theme of “Nanostructures and Sensors” at Dr. K. C. Patel Research and Development Centre, Charotar University of Science and Technology, Changa, Gujarat, during 27<sup>th</sup> to 29<sup>th</sup> September and 4<sup>th</sup> October 2021*

### **(3) Participation of IOP in 1<sup>st</sup> One day Online State Level Science Teachers’ Camp**

IOP Scientist (Prof. A.M. Srivastava) participated in the 1<sup>st</sup> one Day State Level Science Teachers’ camp which was organized by Bigyan Chetana Mancha, Bhubaneswar. Program was attended by about 90 school teachers from across Odisha. Teachers raised issues such as how to generate interest among young students in science subjects, how to encourage them in asking questions, to specific questions such as, how to explain basic physics concepts, e.g. Newton’s laws, diffusion, etc. to junior students of class 7-8.



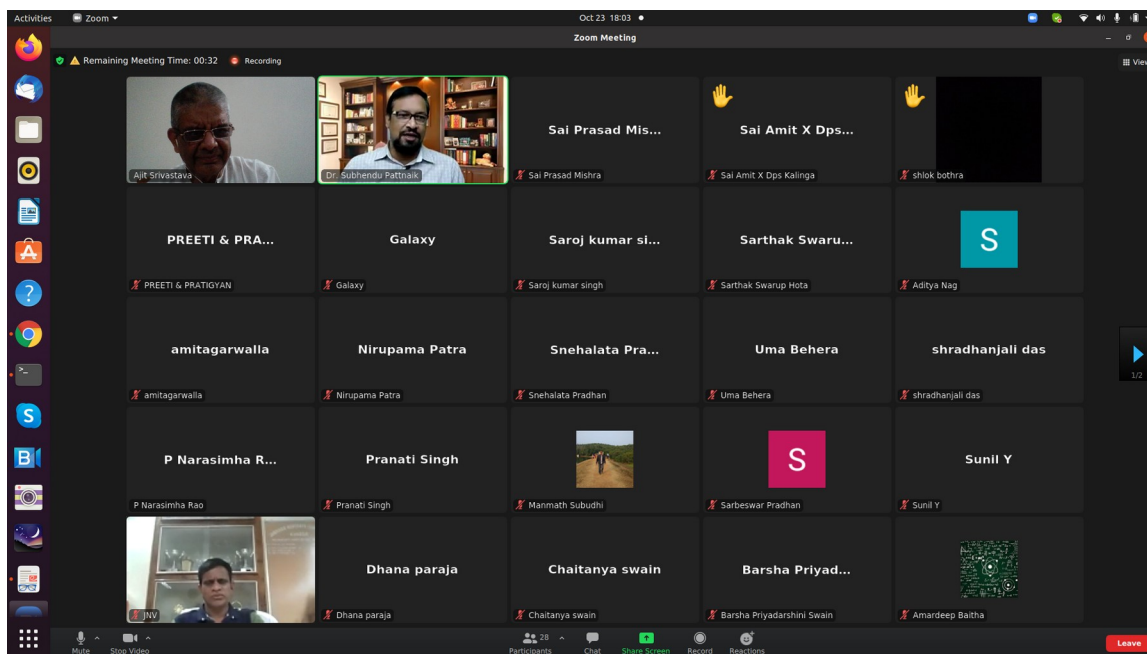
*Image: Online State Level Teachers' Camp , 19<sup>th</sup> Oct. 2021*

#### **(4) Scientists-School Students online interaction program: Physics Open Discussion (POD) at IOP Bhubaneswar**

The second session of the Monthly Physics Open Discussion (POD) online program at IOP Bhubaneswar was held on 23<sup>rd</sup> Oct. 2021 during 5:30 pm – 7 pm. The program was attended by about 25 school students from all over Odisha from class VI to class XII on Zoom online platform. Questions ranging from basic physics concepts (Newton's laws, Centripetal and centrifugal forces, ....) to frontier areas of physics (black holes, neutrino oscillations,...from internet exposure of students) were discussed.

YouTube link for the session: <https://www.youtube.com/watch?v=YZiLL97qdh8>





*Image: POD Online session, Oct.23rd, 2021*

## **(5) One day seminar on “energy, radiation and materials”**

Institute of Physics, Bhubaneswar, Indian Association of Nuclear, Chemists and Allied Scientists-Eastern Regional Chapter, Bhubaneswar and Centurian University of Technology and Management, Bhubaneswar jointly organized a one day seminar on “Energy, Radiation and Materials at Centurian University of Technology and Management campus, Bhubaneswar on 27.10.2021.



*Image: Flyer for one day seminar on “Energy, Radiation and Materials”.*

During the inaugural function Prof. Karuna Kar Nanda, Director, IOP & President, IAN-CAS-ERC, Prof. Supriya Pattanayak, Vice-Chancellor, Centurian University of Technology and Management, Prof. S. K. Biswal, Dean, School Applied Science & Vice-President, IAN-CAS-ERC, Dr. S. N. Sarangi, SO-D & Vice-President, IANCAS-ERC, Dr. Biswajit Mallick, SO-C & Secretary, IANCAS-ERC, Shri Bhagabana Behera, SHT & Treasurer, IANCAS-ERC, all Faculty Members, School of Applied Sciences, CUTM and about 120 B.Sc. & M.Sc. Students of CUTM were present in the meeting. Prof. Biswal delivered the welcome address and Dr. Sarangi presented the vote of thanks.



*Image: a) Inaugural function, b) Speech by Prof. K. K. Nanda, c) Speech by Dr. S. N. Sarangi, d) Participants of the seminar*

After inaugural season, two technical sessions arranged for the one day seminar. Technical session starts with the invited talk of Prof. Karuna Kar Nanda, Director, IOP on “+3 Sc / MSc Courses and various properties of nanostructured materials”. Then Prof. Sujata Mishra, HOD, Department of Chemistry, ITER, S’O’ Anushandhan University, Bhubaneswar delivered a talk on “Solvent extraction -An efficient hydro metallurgical method for recovery of critical metal values from waste materials”, Dr. Binita Nanda, Associate Professor, Department of Chemistry, ITER, S’O’ Anushandhan University, Bhubaneswar delivered a talk on “Role of Nanomaterials in societal benefit”, Dr. S. N. Sarangi, IOP, Bhubaneswar delivered a talk on “Nanoscience: Today’s Science”, Dr. Biswajit Mallick, IOP, Bhubaneswar delivered a talk on “Nuclear Accelerator: A radiation generating machine and its Applications” and Dr. Tapan Dash, HoD, Physics, CUTM delivered a talk on -"Plasma Processing of Advanced Material for Neutron Shielding Application in Nuclear Reactor".

## **(6) IOP Participation in the Inaugural Function of the State level resource persons development training workshop on Low-cost hands-on Mathematics through Origami-2021**

IOP Scientist (Prof. A.M. Srivastava) participated as Chief Guest in the Inaugural Function of the State level resource persons development training workshop on Low-cost hands-on Mathematics through Origami-2021. The program was attended by 60 school teachers (mostly mathematics teachers, and some science teachers) from various places in Odisha. Prof. Srivastava, in his address emphasized that not only origami can play crucial role in visualization and imagination in understanding abstract concepts of school level mathematics, the art of paper folding, cutting, gluing is extremely useful even in explaining advanced mathematical concepts like non-orientable manifolds (using mobius strip), and difficult concepts in physics like worm-holes.



*Image: Inaugural function 28<sup>th</sup> Oct. 2021*

**Web Link for Azadi Ka Amrit Mahotsav (AKAM) program: <https://www.iopb.res.in/AKAM.pdf>**