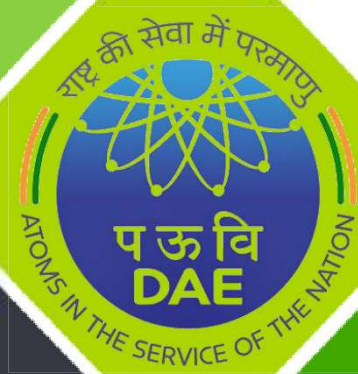


# National Institute of Science Education & Research Bhubaneswar

## Annual Report

and

Audited Statement of Accounts



# 2022-2023

## Extension Activities

### School of Biological Sciences

#### Dr. Abdur Rahaman

- Trained more than five summer trainees from various institutes.

#### Dr. Asima Bhattacharyya

- UGC-Human Resource Development Centre Refresher Course for Faculty Members, The rise of extracellular vesicles (EVs) from cellular trashes to useful biotechnology tools, Biotechnology Department, Utkal University, Odisha, 17 Feb 2023.
- Contributed in the “Minimum Information for the Study of Extracellular Vesicles” (MISEV) 2023 guidelines of the International Society for Extracellular Vesicles (ISEV).

#### Dr. Chandan Goswami

- One school student visited my lab for 15 days in 2022 through NISER Outreach programme.

#### Dr. Debasmita Pankaj Alone

- In the capacity of Chairperson, Outreach Committee NISER and Coordinator, Vigyan Pratibha Odisha and Chattisgarh Region, have organized various Outreach Talks, workshops, and Student related events.

#### Dr. Harapriya Mohapatra

- Conducted internship programs for students.

#### Dr. Kishore CS Panigrahi

- Long-night of Science, 09th sept 2022, public demonstration of importance of Mung bean as alternative to meat, organized by HHU Dusseldorf, Germany in the City center.

#### Dr. Pankaj Vidyadhar Alone

- Member NISER Outreach Committee; Organised school internship event, NISER-open day, Vigyan-Pratibha teacher training event.

#### Dr. Ramanujam Srinivasan

- Meridian School. Madhapur. Hyderabad. 16th Dec. 2022. Bacteriology and Cell Biology – Laboratory Techniques.

#### Dr. Subhasis Chattopadhyay

- Invited talk titled Study of altered Cell Mediated Immunity (CMI) in health and diseases as a Resource Person in the Refresher Course in Biotechnology 10th - 23rd February 2023, Trends in Biotechnology and its Contemporary Relevance, organized by UGC-Human Resource Development Centre (HRDC), Utkal University, on 17th February, 2023.

#### Dr. V Badireenath Konkimalla

- Invited lecture - World of Honeybees and us. Dec 16, 2022. 3rd Edition of Children Science Conclave. DAV Public School, Chandrasekharpur, Bhubaneswar, India.
- Invited lecture - Secrets of life. Sept 12, 2022. Govt. Elementary Teacher Education Institute, Bhubaneswar, India.

#### Dr. Rittik Deb

- Faculty advisor of NISER nature club Oorna, Wildlife club NISER. Associated with all Oorna outreach activities.
- Faculty advisor of NISER Photography club Sapsara. Associated with all Sapsara outreach activities.
- Was associated along with laboratory students with NISER Science Camp (6-8th April 2023) to give class XI students a glimpse of behavioural and bioacoustics ecology.

#### Dr. Swagata Ghatak

- Gave talk on “Excitatory/Inhibitory (E/I) Imbalance in Neurological Disorders” at Brain Matters club (organized by students of NISER), 3rd February 2023.
- Participated and held live scientific interactions with school students in Science Camp at NISER held on 6th to 8th April 2023.

#### Dr. Shyamasree Ghosh

- Invited in Make in Orissa Conclave, Govt of Orissa, 2022
- Participated in the outreach programme at NISER.

**Dr. Shovon Pal**

- Talk at SPS day 2022 (Title: Dynamics at ultrashort and ultrafast timescales).

**Dr. G. Santosh Babu**

- Acted as resource person for Vigyan Pratibha event (4th Teachers Training Workshop from 30th August 2022 to 3rd September 2022). Helped in outreach activity of NISER for school students visiting NISER.

**Dr. Sudakshina Prusty**

- Coordinated physics laboratory activities for Science Camp during 6-8th April 2023.
- Coordinated exposure visit of Physics teachers of Odisha Adarsha Vidyalaya Sangathan.

- Coordinated numerous physics laboratory visits for school and college students of Odisha.

**Centre for Interdisciplinary Sciences**

- Coordinated visit of about 50 students from Carmel English Medium School, Jatni.
- Coordinated visit of about 45 students from Freedom International School, Bahugram, Cuttack.
- Coordinated visit of about 45 students from Rajdhani College, Bhubaneswar.
- Coordinated visit of teachers from different schools under Vigyan Pratibha Workshop – Kendriya Vidyalaya, Jawahar Navodaya Vidyalaya.

of Technology, IIIT, CV Raman Global University, and ITER.

**Participation in Other College Fests:** NISER's music and drama teams took part in external college fests including Alma Fiesta by IIT Bhubaneswar and KAIRAAN by NLU Odisha, showcasing their talents beyond the campus.

### Quizzone

In August 2022, NISER's Quizzone club teamed up with IIT Bhubaneswar's quiz club to organize a dynamic General quiz. Over a hundred students participated in teams of two from both institutions. Eight teams excelled in the written prelims, progressing to the intense finals, featuring captivating rounds of quizzing and cleverly designed questions. In October, Quizzone hosted an Insta quiz on their Instagram page, running for 15 days with rapid-fire questions and daily winners. March brought two more quizzes - Cognizzia, a general quiz hosted by Mr. Somnath Chanda, and Pop goes the culture, the MELA quiz, drawing significant engagement from college students in both intra and inter college categories.

### The Free Radicals (TFR) Club

The Free Radicals (TFR), the chemistry club of NISER was formally inaugurated by the Director, Prof. Sudhakar Panda at the School of Chemical Sciences (SCS) Meet, 19th April, 2022. After its inception, the club has held a series of alumni talks, student talks, and chemistry-themed activities to invigorate the passion for the subject beyond the classroom. Along with that, outreach activities were held to popularize science among school students and the general public.

#### Student Talks:

1. Kinetic Investigations of the Catalytic Hydration of Nitriles to Amides by Mr. Shivam Mahapatra, 5th Year Integrated M.Sc., SCS. (29th April, 2022)

#### Alumni Talks:

1. Local Excitations in Crystalline Point Defects with Multireference Density Matrix Embedding

Theory by Mr. Abhishek Mitra (Batch of 2014), University of Chicago, USA (10th June, 2022).

2. Competing reaction dynamics with second-order saddles by Ms. Richa Rashmi (Batch of 2016), University of California, San Diego, USA (29th August, 2022).
3. Tackling Multireference Quantum Chemistry by Incorporating Selected Configuration Interaction in Moment Energy Expansions by Ms. Swati Snigdha Priyadarsini (Batch of 2016), Michigan State University, USA (4th January, 2023).
4. Hybrid QM: QM methods for adsorption of ethanol in H-MFI by Mr. Dipansu Kumar (Batch of 2016), Radboud University, Netherlands (6th January, 2023).
5. Structure, Assembly, and Properties of Cephalopod Protein-Based Materials by Dr. Preeta Pratakshya (Batch of 2012), University of California, Berkeley (6 February, 2023).

### Outreach Activities:

1. Prerana 2022 (19th November, 2022)

Prerana 2022 was an expository outreach program for the children of NISER's general workforce. TFR participated in the event with an exhibitional chemistry session. Several fun chemistry experiments like elephant toothpaste, baking soda rocket, liquid nitrogen freezing, fluorescence demonstrations, and flame tests, were performed in front of the children. After each experiment, the science was explained to the children in a lucid manner. The exhilarating event was enjoyed and well appreciated by the children of different age-groups in the audience.

2. Science Camp 2023 (6th - 7th April, 2023)

TFR was involved in teaching high-school students about real-life applications of chemistry. Forensic chemistry was chosen to be the matter of exposition and students were given a case study of a murder case. The theory behind the chemical tests they would perform to solve the case was explained. The students were grouped to attempt the problem,