

# VIBES

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VOL. 6, ISSUE 2



**NISER NEWSLETTER**

**VOLUME 6, ISSUE 2**

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# VIBES 6.2

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# D MESSAGE FROM THE DIRECTOR

Dear Friends and Well-Wishers of NISER,

I am pleased to share the latest edition of Vibes, the July - December 2024 issue of our vibrant newsletter that showcases the spirit and achievements of NISER.

This edition reflects a period of exceptional growth, highlighted by the successful hosting of the 1st DAE Conclave, which brought together over 500 experts from across the scientific community. NISER also celebrated a milestone with the 13th Graduation Ceremony, graced by the Honorable President of India, Smt. Droupadi Murmu, alongside other distinguished guests.

In addition to these events, NISER has successfully hosted several prestigious workshops and conferences, including the Indo-German Kick-Off Workshop on Recent Progress in Topological Magnetism, the 90th Annual Meeting of the Indian Academy of Sciences, the Ultrafast Sciences (UFS) 2024, the EMBO Workshop on Neuropeptides and Behavioural Flexibility, the 47th All India Cell Biology Conference, and the International Conference on Hybrid Halide Perovskite 2024 (HyPe-24). These gatherings have fostered collaborations and led to the exchange of cutting-edge research, reinforcing NISER's position as a hub of scientific excellence.

Our faculty have earned prestigious recognitions, with Dr. Priyadarshi Chowdhury receiving the Mineralogical Society of America Young Scientist Award, Dr. Bishnu P. Biswal being named an associate of the Indian Academy of Sciences, and Prof. Bedangadas Mohanty being conferred the Odisha Citizens Award 2024 in the Education category. Furthermore, Dr. Manjusha Dixit has been appointed to the Editorial Board of BMC Biology, and Prof. Himansu S. Biswal has been appointed to the Editorial Advisory Board of The Journal of Physical Chemistry Letters.



We are proud to celebrate the accomplishments of our alumni, particularly Dr. Srijani Mallik, a distinguished NISER alumna (PhD-SPS), who has progressed to the position of Associate Professor E at the Saha Institute of Nuclear Physics, Kolkata. Our students also continue to excel, earning prestigious awards at major conferences and receiving recognition for their outstanding research. We are proud of our faculty, students, and alumni who contribute to the global scientific community.

I extend my gratitude to the entire NISER community for their dedication and a special thank you to all contributors whose hard work makes this newsletter possible.

**Prof. Hirendra Nath Ghosh**  
**Director, NISER**



# 1st DAE Conclave 2024



## Innovation and Collaboration

The inaugural **DAE Conclave 2024**, hosted at NISER Bhubaneswar as part of the DAE Platinum Jubilee celebrations, brought together over 500 distinguished scientists, engineers, and experts from across the nation. This landmark event focused on critical areas such as Energy Security, Healthcare, and Advanced Technologies, offering a platform to showcase significant advancements in nuclear science and technology. With over 300 poster presentations and 50 exhibitors, the Conclave encouraged collaboration and knowledge sharing, fostering connections among professionals and researchers dedicated to advancing science and technology.



## Advancing Nuclear Leadership

With participation from institutions like BARC, IGCAR, RRCAT, and VECC, the Conclave highlighted DAE's strength in scientific innovation. It served as a platform for researchers to connect with industry leaders, fostering collaborations that bridge research and industry. Highlighting advancements in nuclear science, it reinforced India's vision of sustainability and self-reliance.



# XIII Graduation Ceremony



The **Thirteenth Graduation Ceremony of NISER**, held on July 9th, 2024, celebrated the achievements of students who completed their programs in June 2024. The event was graced by the Honorable President of India, Smt. Droupadi Murmu, who delivered an inspiring address. Distinguished guests, including the Honorable Governor of Odisha, Shri Raghubar Das, and Chief Minister Shri Mohan Charan Majhi, attended as guests of honor. Presided over by Dr. Ajit K. Mohanty, Secretary of the Department of Atomic Energy (DAE), the ceremony highlighted NISER's strong ties to India's scientific community.



A total of 248 students graduated during the ceremony, reflecting NISER's commitment to nurturing future leaders in science. This included 157 students receiving their Integrated MSc, 13 earning an Integrated MSc-PhD, 68 completing their PhD, and 10 graduating with an MSc in Medical & Radiological Physics. The event celebrated not only academic excellence but also the spirit of perseverance, innovation, and dedication that defines the NISER community. It was a momentous occasion that brought together distinguished dignitaries, faculty, families, and students to honor the achievements of the graduating batch.



# ACADEMIC EVENTS ORGANIZED



The School of Biological Sciences, NISER, in dynamic collaboration with the Institute of Life Sciences (ILS) Bhubaneswar, hosted the **"Third Quarterly Union for Academic Discourse (QUAD) Bhubaneswar 2024"** on August 10. With the compelling theme "Perturbance of Cellular Homeostasis and Rescue," this event brought together brilliant minds from both institutes, sparking insightful research discussions, inspiring academic dialogues, and igniting new avenues for collaboration.



The Central Library, NISER, in collaboration with IOP Publishing, hosted the exciting **"IOP Science Quiz"** online from 30th August to 2nd September 2024. Integrated MSc students from all years participated, displaying their scientific brilliance and competitiveness, making the event a success.

On September 13, 2024, NISER's Central Library, in collaboration with Thieme Publisher, hosted an Editorial Talk on **"Common Pitfalls in Scientific Writing & Science of Synthesis,"** led by Dr. Rohit Bhatia, Acquisitions Editor at Thieme Chemistry. The session engaged faculty, research scholars, PDFs, and MSC students from SBS and SCS.

The **Second Vigyan Pratibha Teachers' Training Workshop**, held from September 17-20, 2024, at NISER Bhubaneswar, engaged 61 teachers from Odisha, Chhattisgarh, and Andhra Pradesh. In collaboration with IOP, the workshop introduced new "Learning Units," skill development sessions, and collaborative activities, with teachers providing valuable feedback for school implementation.

To celebrate Chandrayaan-3's historic Moon landing, August 23rd was declared **"National Space Day"** by the Hon'ble Prime Minister. NISER's School of Earth & Planetary Sciences hosted lectures, a space quiz, and panel discussions with experts. The highlight was the unveiling of **'KALPANA,'** NISER's Observatory, honoring Kalpana Chawla. Developed by the Astronomy Club, it features advanced telescopes for deep-sky observation and astrophotography, marking a new era in cosmic exploration.







The **7th DAE National Yoga Conference**, themed "Ancient Yogic Science for Modern Lifestyle Management," was held at NISER on September 28-29, 2024. The event brought together scholars, practitioners, and yoga enthusiasts to explore the relevance of ancient practices in modern living. It featured talks, practical sessions, and discussions, offering participants valuable insights into yoga's transformative applications for lifestyle enhancement. The conference's success highlighted the contributions of speakers, participants, and organizers.

The **Outreach Workshop for BoseStat@100**, held on October 18, 2024, at NISER, celebrated Satyendra Nath Bose's contributions to physics. Organized by the Indian Physics Association, SNBNCBS, and NISER, the workshop included talks on Bose-Einstein statistics, fundamental physics sessions, and discussions on its applications. The event inspired students, connected researchers, and fostered enthusiasm for scientific discovery. Appreciation was extended to all participants, speakers, and organizers for their contributions.



The **Indo-German Kick-Off Workshop on Topological Magnetism**, held from November 5-8, 2024, brought together leading scientists from India, Germany, and beyond to discuss recent advancements. A collaborative effort between the Max Planck Institute of Microstructure Physics and NISER, the event featured in-depth discussions and exchanges, fostering international collaboration. Around 100 participants engaged in cutting-edge research, driving progress in this exciting field of physics.

The **Advances in Biological Sciences Symposium**, held on November 7, 2024, was organized by the Journal of Biosciences Editorial Board and NISER. It provided a platform for researchers, faculty, and students from NISER and local institutes to exchange insights. The half-day event featured seven talks by Editorial Board Members, followed by a Q&A session, fostering discussions on recent advancements in biological sciences.



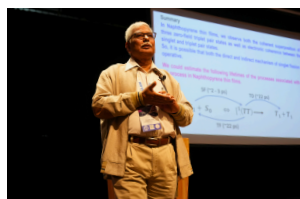
The **90th Annual Meeting of the Indian Academy of Sciences** commenced on November 8, 2024, at NISER Bhubaneswar, co-hosted by IIT Bhubaneswar. This prestigious event gathered scientists and researchers nationwide to share knowledge, explore advancements, and celebrate nine decades of research excellence. Highlights included thematic symposiums, special lectures on diverse topics like history and AI, and public talks by renowned experts.







The **DAE-BRNS 11th Theme Meeting on Ultrafast Sciences (UFS-2024)**, held from November 28-30, 2024, at NISER Bhubaneswar, brought researchers together to discuss advancements in ultrafast science. Topics included attosecond spectroscopy, light-matter interaction, nonlinear optics, photochemistry, terahertz spectroscopy, ultrafast laser sources, and multidimensional imaging. The event fostered collaborations and showcased significant research, concluding successfully.



The Central Library, NISER, hosted a talk titled **"Artificial Intelligence and Scientific Publishing – Friends or Foes?"** on November 8, 2024. Dr. Paresh Kumar Majhi, Scientific Editor at Elsevier, discussed AI's role in peer review, research integrity tools, journal selection, and responsible generative AI use, highlighting AI's evolving impact on scientific publishing.

The **EMBO Workshop on Neuropeptides and Behavioural Flexibility**, held from December 5-8, 2024, at NISER Bhubaneswar, gathered researchers to explore neuropeptides' role in behavior. It highlighted advancements in genetic tools, electrophysiology, mass spectrometry, and optogenetics, featuring studies from peptidergic signaling in echinoderms to human behavior, fostering cross-disciplinary collaboration.



The **International Conference on Metal Halide Perovskites 2024 (HyPe-24)**, held from December 19-22 at NISER Bhubaneswar, showcased advancements in halide perovskites,

including synthesis, photophysics, charge transport, and optoelectronic devices. The event united international and Indian researchers, fostering collaboration and advancing perovskite research.



The **47th All India Cell Biology Conference and International Symposium**, held from December 16-18, 2024, at NISER Bhubaneswar, focused on "CELL IN ACTION." The event brought together scientists and researchers to discuss cellular mechanisms and their impact on human health and science, showcasing the vibrancy and transformative potential of cellular biology.





# TALKS & SPECIAL LECTURES

On September 20, 2024, Prof. Ashok Kumar Ganguli, Director of IISER Berhampur, delivered an Outreach Talk titled **"Gifts of Science to Society"** at NISER. He highlighted daily scientific marvels, from nature's wonders to innovations like maglev trains and artificial skin, showcasing science's transformative impact on our lives.



On September 24, 2024, the School of Biological Sciences at NISER hosted a colloquium with Prof. Krishanu Ray, Director of the National Brain Research Centre. Prof. Ray's talk, **"Neuroeconomics: How the Brain Decodes the Value of Money,"** explored the brain's role in perceiving and processing value.

On October 26, 2024, NISER hosted a keynote talk by Dr. R. Chidambaram, former DAE Secretary and renowned physicist, as part of the 1st DAE Conclave. Dr. Chidambaram shared insights on nuclear technology and its impact on India's scientific progress with faculty, students, and researchers.



On November 1, 2024, the School of Computer Sciences hosted Prof. V. Pandu Ranga from IIT Bhubaneswar for a "Katha Barta" session on **"Biped Robotics: Gait Generation,"** covering gait planning, dynamic balance, and soft computing-based planners like GA-NN and GA-FLC.

On November 6, 2024, the NISER community participated in an engaging talk titled **"Physics and Consciousness,"** organized by the Bhakti Vedanta Institute, Bhubaneswar. Speakers Mr. Varun Agrawal, Director, and Mr. Basudev Rao, President, delved into the fascinating connection between physics and consciousness, providing thought-provoking insights.

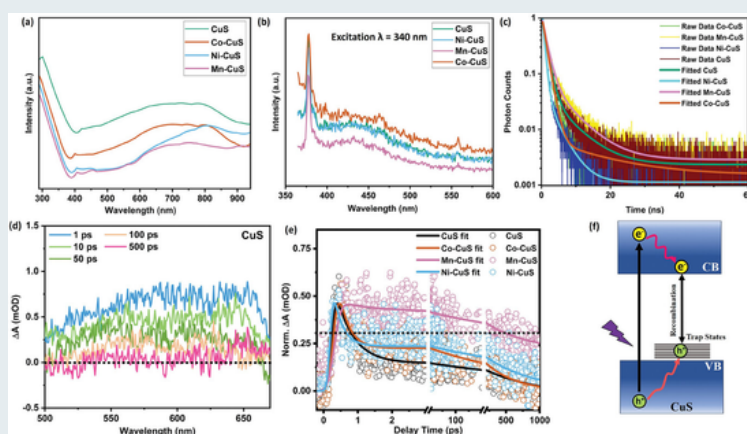
In November 2024, the NISER Health Centre and Tata Memorial Centre (TMC) conducted a **Breast Cancer Awareness Session**, highlighting early detection techniques like self-breast examination (SBE) and discussing symptoms, risks, and prevention. The event emphasized early detection's role in improving survival rates and empowered participants with vital health knowledge.

On December 19, 2024, NISER hosted an engaging institute colloquium at the Pathani Samanta Auditorium featuring two renowned scientists. Prof. Prashant V. Kamat (University of Notre Dame) spoke on **"Mastering the Art of Scientific Publication,"** and Prof. D. D. Sarma (IISc Bengaluru) presented **"Halide Perovskites: Past Excitements and Recent Surprises."** The event offered valuable insights and fostered vibrant scientific discussions.





# RESEARCH & DISCOVERY

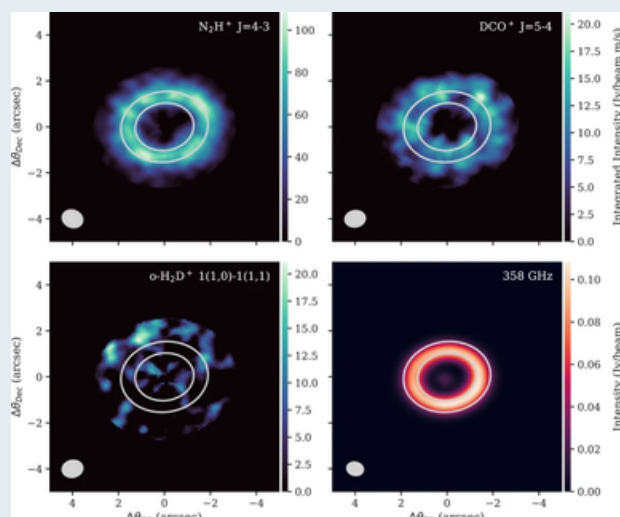


## Enhancing Sodium-Ion Batteries with Doped Copper Sulfide

A study led by **Dr. Shovon Pal** from School of Physical Sciences explored the doping of Copper Sulfide (CuS) with transition metals like Nickel, Cobalt, and Manganese. Published in **SMALL**, the research shows how dopants improve charge carrier dynamics, reduce the bandgap, and enhance carrier mobility and lifetime. These findings suggest potential for doped CuS in energy storage, particularly as cathode materials in sodium-ion batteries.

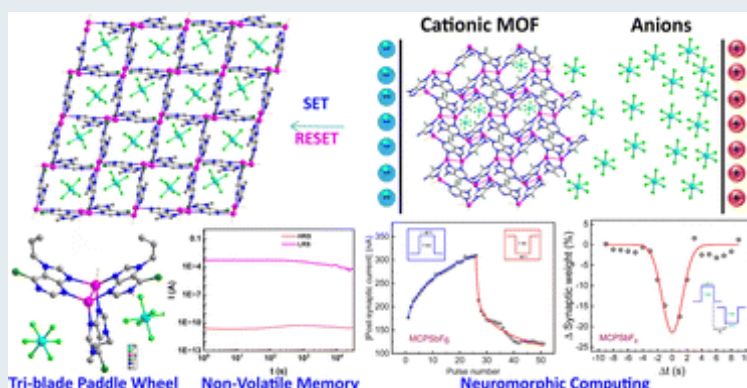
## Exploring Cold Molecular Chemistry in Planet Formation: Insights from the GG Tau A Disk

A team of multinational scientists, including **Dr. Liton Majumdar** and Mr. Parashmoni Kashyap from NISER's School of Earth & Planetary Sciences, studied the cold molecular chemistry in the GG Tau A protoplanetary disk. Published in **The Astrophysical Journal**, their research, using ALMA Band 7 observations, explores molecular emissions and reveals the impact of cosmic-ray ionization on molecular abundances. The study emphasizes the complexity of molecular structures in the cold, dense regions of planet formation.



## Enhancing Memory and Neuromorphic Computing with Silver MOFs

A group of Scientists, including **Dr. Satyaprasad P. Senanayak** and **Dr. Chandra Sekhar Purohit** from NISER, synthesized homo-bimetallic silver purine MOFs with direct metal-metal bonding. Published in **Materials Horizons**, the study shows voltage-controlled ionic conductivity, enabling memory functionality and advancing neuromorphic computing and bio-synaptic electronic devices.

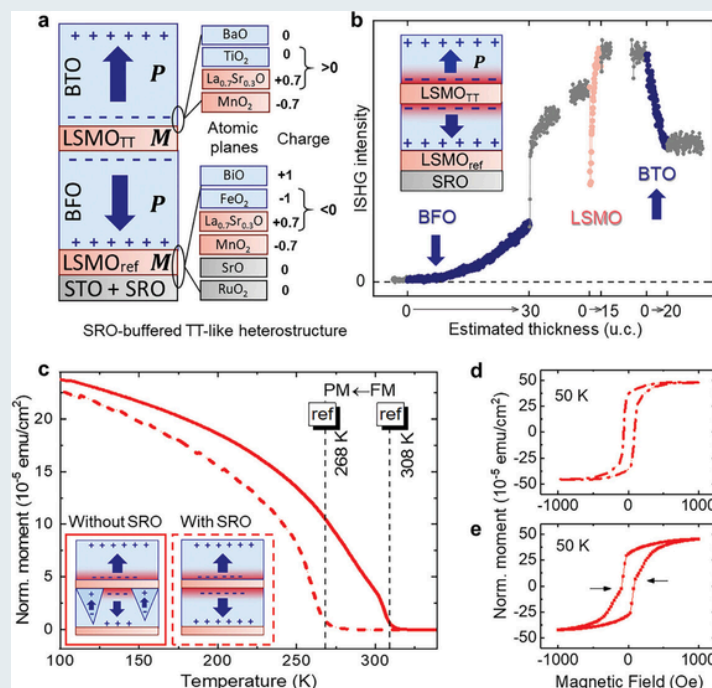


## Climate change, sea level rise, and their impact on India's coastal communities.

**Dr. Pranay Kumar Swain** and his student Ansuman Das from NISER studied the effects of climate change and sea level rise (SLR) on India's coastal regions. Published in **Environmental Monitoring and Assessment**, their research highlights the economic, social, and environmental challenges faced by coastal communities,

such as displacement, food insecurity, and ecological damage. The study emphasizes sustainable practices and climate-resilient infrastructure to inform adaptive strategies and policies for building resilient coastal ecosystems in response to rising sea levels.



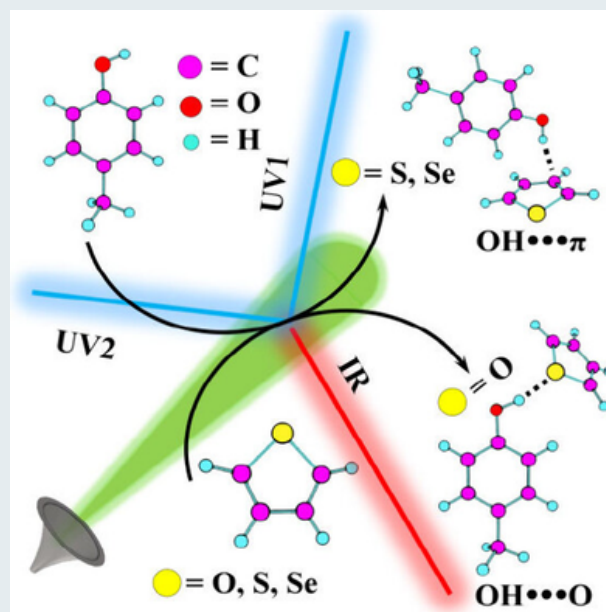


## Advancing Magnetoelectric Functionality in Oxide-Based Electronic Devices

A multinational team of scientists, including **Dr. Shovon Pal** from NISER's School of Physical Sciences, tackled the challenge of creating charged ferroelectric domain walls. Published in **Advanced Functional Materials**, their study introduced robust domain-wall-like structures in epitaxial oxide heterostructures by combining BaTiO<sub>3</sub> and BiFeO<sub>3</sub> layers with opposing polarizations. The addition of an ultrathin La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub> layer enabled precise control over electron or hole accumulation, influencing conductivity and magnetization. These trilayer structures offer magnetoelectric functionality and hold promise for advancing oxide-based electronic devices.

## Unraveling Aromaticity: A Century-Old Puzzle Solved with Precision Spectroscopy

A team of scientists, including **Prof. Himansu Sekhar Biswal** from School of Chemical Sciences, has resolved a century-old scientific debate on the aromaticity order of furan, thiophene, and selenophene. Using advanced supersonic-jet spectroscopy techniques, they determined that selenophene is the most aromatic, followed by thiophene and furan. Published in the **Journal of Physical Chemistry Letters** and prominently featured on its cover, this groundbreaking research refines theoretical models and showcases the unparalleled precision of gas-phase laser spectroscopy in unraveling complex molecular properties with remarkable accuracy.



## ALUMNI CONNECT

**Dr. Srijani Mallik**, an alumna (PhD-SPS) of NISER, who earned her doctoral degree under the mentorship of Prof. Subhankar Bedanta, has secured a position as Associate Professor-E at the Saha Institute of Nuclear Physics, Kolkata. Her remarkable contributions to physical sciences and unwavering dedication to research highlight the significant influence of NISER alumni in advancing science at prestigious institutions, serving as an inspiration to the entire scientific community.



# AWARDS & HONORS

DR. PRIYADARSHI CHOWDHURY



From the School of Earth and Planetary Sciences, received the prestigious **Mineralogical Society of America Young Scientist Award**. And he was selected as **Associate of the Indian Academy of Sciences**, recognizing his exceptional research and contributions to science.

DR. BISHNU P. BISWAL



From the School of Chemical Sciences, has been named an **Associate of the Indian Academy of Sciences** for 2024, an honor that acknowledges his expertise and outstanding contributions to the field of chemical sciences.

PROF. BEDANGADAS MOHANTY



From the School of Physical Sciences, has received the **Odisha Citizens Award 2024** in the Education category, recognizing outstanding contributions to the academia and the advancement of physical sciences.

PROF. HIMANSU S BISWAL



From the School of Chemical Sciences, has been appointed to the **Editorial Advisory Board** of The Journal of Physical Chemistry Letters for 2025-2027, reflecting his expertise and valuable contributions to the field.

DR. MANJUSHA DIXIT



From the School of Biological Sciences, has been appointed to the **Editorial Board** of BMC Biology, recognizing her exceptional expertise and valuable contributions to advancing the field of biological sciences.

DR. AMARENDRA DAS



From the School of Humanities and Social Sciences, recognized as one of the **Times Icons of Odisha 2024** for his significant contributions to his field and lasting societal impact.



# STUDENT ACHIVEMENTS



**Mr. Aher Jayesh Bhausaheb** from SBS won the **Biointerphase Best Poster Award** at the 6th Biomembranes Symposium 2024.



**Ms. Payel Shee** from SPS has been honored with the **Best Poster Award** at the 7th NCES-2024 held at SRM University.



**Mr. Suraj K. Agrawalla** from SCS won the **Best Poster Prize** at the National Conference on Chemistry for Sustainability.



**Ms. Bhuvneshwari Sharma** from SPS has been granted a collaborative project by the **IEEE Magnetic Society**.



**Ms. Swarna Prava Das** from SEPS has been awarded the prestigious **Meteoritical Society Research Grant**.



**Ms. Kshyama Subhadarsini Tung** from SBS has been honored with the **Best Poster Award** at Immunocon 2024.



**Mr. Amit Haldar** from SPS has been honored with the **Outstanding Poster Presentation Award** at the FiO+LS Conference.



**Dr. Rakesh Kumar Behera** from SCS has been honored with the **Best Poster Award** at the Ultrafast Sciences (UFS-2024) Conference.



**Ms. Ananya Palo** from SBS was awarded the **Prof. U N Singh Best Research Talk** at the 5th iZIM Conference held at ILS.





**Mr. Swapnil Sahoo** from SBS has been honored with the **Best Poster Award** at the OBMT 2024 Conference at the IISER, Pune.



**Mr. Prabin Bawali** from SBS received the **Best Poster Award** at the 1st NCURB-2024, held from 16-17 December 2024 at IISER-Tirupati.



**Mr. Debopam Acharjee** from SCS has been honored with the **Best Poster Award** at the HyPe-2024 held at NISER.



4th-year Integrated MSc students **Rahul Madhav, Joel Joseph, Sreerag M, and Shourya** won the **Best Poster Award** at the International Conference on Biofilms and Biofouling Control (BBC-2024), held from December 12-14, 2024, at BARC IGCAR, Kalpakkam.



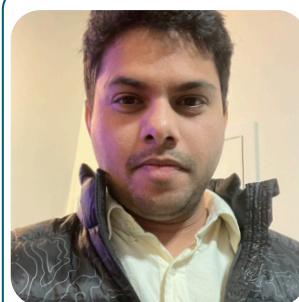
**Mr. Swosti Prakash Sarangi** from SPS has been awarded the **Best Poster Award** at the Ultrafast Sciences (UFS-2024) Conference.



**Dr. Rajata K Sahoo** from SCS has been honored with the **Prof. G. B. Behera Best Thesis Award** by the Odisha Chemical Society.



**Mr. Kanha Ram Khator** from SPS has been honored with the **Best Poster Award** at the HyPe-2024 held at NISER, Bhubaneswar.



**Dr. Ashish Pandav** from SPS received the **IPA Rahul Basu Memorial Best Thesis Award** in High Energy Physics at the DAE HEP Symposium.



# SAY HELLO TO OUR NEW MEMBERS

Collaboration starts with connection



**Dr. Divya Undrakonda**  
Scientific Officer - C at Health Centre joined on September 30, 2024.



**Mr. Jitendra Kumar**  
Scientific Assistant - B at School of Physical Sciences joined on July 18, 2024.



**Dr. Akhandal Sahoo**  
Scientific Assistant - C at School of Earth & Planetary Sciences joined on September 09, 2024.



**Mr. Vishalkumar Uttamrao Jadhav**  
Scientific Assistant - C at School of Biological Sciences joined on October 01, 2024.

## OTHER EVENTS



### INDEPENDENCE DAY

NISER celebrated the 78th Independence Day with great enthusiasm and patriotism, featuring a vibrant plantation drive and captivating cultural performances. The sapling plantation emphasized our commitment to sustainability and environmental care, while the cultural events showcased the unity and diversity of our nation. The day reflected pride in our heritage, a sense of responsibility, and a shared vision for a greener and brighter future, leaving everyone inspired and filled with national pride.

### FOUNDATION DAY

The 15th Foundation Day of NISER was celebrated on 6th September 2024, reflecting on its legacy of scientific achievements and academic excellence. The event featured an inspiring talk by Prof. R. B. Grover, Member of the Atomic Energy Commission and Founding Vice-Chancellor of HBNI. Faculty and students were honored for their contributions, highlighting NISER's commitment to excellence. The day was marked with pride and gratitude as the institute embraced its milestones and envisioned a future of innovation and discovery.







## OBSERVANCE OF VIGILANCE AWARENESS WEEK

Vigilance Awareness Week, held from October 28th to November 3rd, 2024, focused on fostering integrity under the theme "Culture of Integrity for Nation's Prosperity." On October 30th, 2024, Prof. Hirendra Nath Ghosh, Director of NISER, led an Integrity Pledge with the staff and faculty, reinforcing the institution's commitment to upholding integrity and combating corruption. This initiative aimed to instill values of ethical conduct and transparency within the campus community, strengthening the foundation for a prosperous and fair future.

## OBSERVANCE OF RASHTRIYA EKTA DIWAS

On October 30, 2024, NISER celebrated National Unity Day, honoring Sardar Vallabhbhai Patel's enduring legacy. The community enthusiastically took the Rashtriya Ekta Diwas Unity Pledge, reaffirming their unwavering commitment to national integration, unity, and harmony.



## OBSERVANCE OF THE CONSTITUTION DAY

On November 26, 2024, NISER observed Constitution Day with active community participation. The Preamble was collectively read, and the Director emphasized the significance of the day in upholding the values of democracy and governance.

## SPECIAL SWACHHATA CAMPAIGN

The Swachh Bharat (Clean India) Campaign marked its 10th anniversary in 2024, a decade since its launch by Prime Minister Shri Narendra Modi on October 2, 2014. To commemorate this milestone, nationwide initiatives were held from October 2 to 31. At NISER, various activities highlighted the institute's dedication to cleanliness and environmental care, echoing the national vision of a cleaner, greener India.



# Student Activities

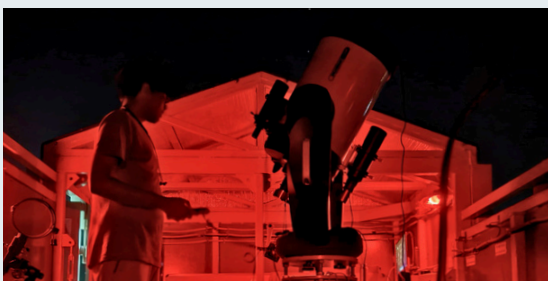
## *Astronomy Club*

In August 2024, NAC hosted the Starstrider Treasure Hunt and inaugurated the KALPANA Observatory on National Space Day, unveiling the 8" reflector 'Bhaskara' and 11" Schmidt-Cassegrain 'Paddy,' with Prof. Hirendra Nath Ghosh, Director, leading the event.

In September, NAC held observation sessions at KALPANA and two UMANG events: Stellar Shots, featuring student-made science videos, and Conspire Con, with presentations on creative conspiracy theories. Additionally, NAC hosted astrophotography workshops on September 7 and October 27, and a general observation session on October 18 to view Comet A3.

In December, NAC's astrophotograph The Gentle Giant (a detailed image of Jupiter) was shortlisted in the Aperture competition by Astronomads Bangla and displayed at M.P. Birla Planetarium.

For the IUCAA competition, NAC submitted two experiments: calculating the Moon's orbital eccentricity and determining the orbital periods of Jupiter's Galilean Moons using a 6-inch telescope and a mobile phone camera.



## *Brain Matters Club*

On August 17th, 2024, Dr. Ashesh K. Dhawale from IISc Bangalore presented on "The Neural Basis of Motor Skill Learning and Execution." He explored neural mechanisms behind motor skill learning and shared insights into tools developed in his lab to track neuron activity and behavior in rodents, focusing on the basal ganglia's role in motor sequences.

On August 30th, 2024, the Club launched Summer Deeds – A 3-Minute Thesis Event, where participants presented their summer research in three minutes with one slide, enhancing science communication and fostering creative storytelling across disciplines.

The Brain Matters Club hosted the Galactic Intelligence Initiative, where teams of 4-6 competed to discover extraterrestrial life on Kepler-186f. The event included online qualifiers on September 12th and a final Escape House challenge on September 13th, testing logic, problem-solving, and teamwork.

On November 3rd, 2024, Brain Matters hosted the Alumni Insights Conference, where NISER alumni shared career paths beyond MSc, including PhDs and professional opportunities. Panelists included Ritadip Bharti, Nilesh Ranjan Das, Aniruddha Seal, and Gargi Biswas, who discussed their global experiences.

On November 15th, 2024, Brain Matters hosted an online talk by Dr. Sonu M. M. Bhaskar, Director of the Global Health Neurology Lab, Sydney. He presented "Rethinking Brain Collaterals to Transform Stroke Treatment and Recovery," discussing the "Evolucollateral Dynamics" hypothesis and how genetics and environment influence stroke recovery and treatment strategies.





## Coding Club

The club hosted weekly "Code N Coffee" sessions on topics like Matplotlib, Linux terminals, and Git. Other highlights included Machine Learning by Sagar P. Barad, Turing Machine by Harisankar, Computers by Aneesh Ukidve, Dijkstra's Algorithm by Shithij & Harisankar, Matplotlib Animation by Alan Ajay, and Game Development by Vaibhav Singh & D.S. Vinay.

It also hosted engaging programs beyond weekly sessions, including "Switcheroo," a competitive coding event during UMANG 2024, and algorithm demonstrations on NISER Open Day to inspire students from various schools to explore programming.

The Coding Club began work on the official "NISER App," launched a winter internship offering Python basics and web development training, and developed an alumni website. An event planner was introduced, and the "Problem of the Week" (POTW) encouraged coding culture with challenges for all levels, supported by a Python help group for beginners.

## Dance Club

The club's activities began with intra-NISER dance competitions during Umang-2024, featuring solo, synchro, and group categories. The event brought diverse dance styles, filling the campus with vibrant energy and excitement.

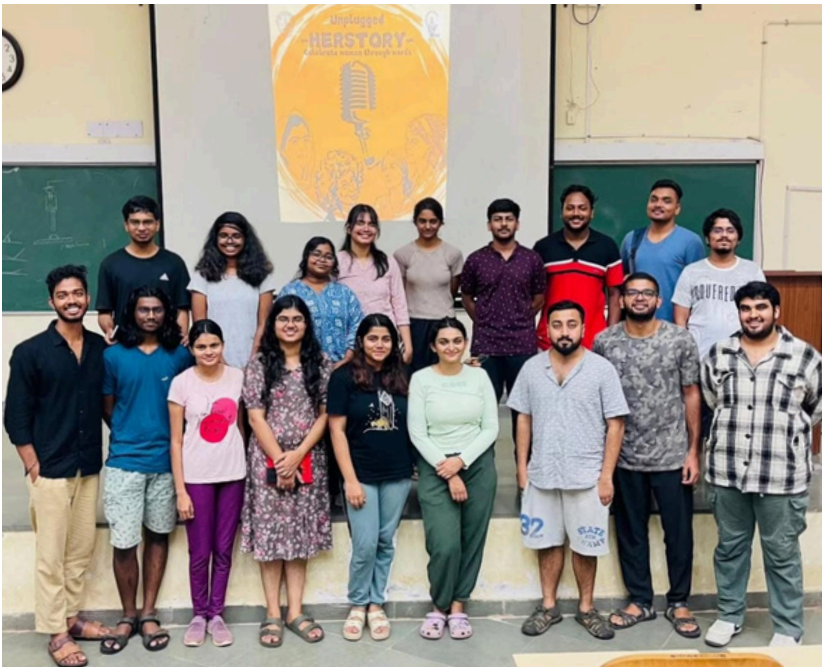
The club organized workshops led by talented members, offering Bollywood, Afro, and hip-hop styles, giving dancers a chance to learn, connect, and explore new movements.

A key highlight of the semester was the Dance Club's dynamic performance at the DAE Conclave's cultural program, showcasing the institute's spirit and talent. Additionally, several members participated in enriching workshops, including the Tribal Funk Jam in Bhubaneswar in August and a House workshop hosted by House in the House, further enhancing their skills and experience.

As the semester ended, the Dance Club geared up for the Inter-INCI Cultural Meet, excelling in classical solo, synchro, group, and battle categories. PhD student Ms. Sasmita Behera earned second place in the IICM classical solo dance.







## Literary Club

LitC kicked off the semester with "Literary Dialogues" on August 23rd, an open mic event celebrating literature and sparking lively discussions.

On September 8th, LitC's "Unplugged" series debuted with the theme "Herstory," featuring readings from female authors and original works, sparking vibrant discussions on literature and feminism.

During Umang 2024, LitC hosted "Saga," a story-writing contest, and "Reverie," a poetry contest, drawing impressive participation and showcasing remarkable creativity.

On October 25th, LitC and Quizone hosted a trivia night on contemporary classics and pop culture, with the top three teams winning books, making it a memorable evening.

On Halloween, LitC and Vaktavya hosted "Khaos" and a fictional Crisis Committee, blending festive spirit with creativity and strong participation.

At IICM 2024, LitC excelled as Meera Vijayan (Batch 20) won gold in poetry, showcasing the club's literary talent.



## Oorna Club

The club hosted engaging sessions this semester, including a talk by Dr. Geetha Ramaswami on managing invasive species, Mr. Pranoy Kishore Borah's insights on Indian frogs, and an open conversation with Mr. Anurag Mishra, DFO of Kalahandi, on wildlife management and career options. The club also organized an in-campus birding session to explore local birdlife.



Oorna launched the Reptiles and Amphibians of NISER field guide, a key milestone in documenting campus biodiversity. Available both online and in print, it serves as a valuable resource for herping sessions and supports Oorna's mission to raise awareness of campus wildlife.

## Quizone

During Umang, the club hosted Te Quizero, a thrilling general knowledge quiz that drew enthusiastic participants, making it a memorable event.

The club organized Filmologica, a film quiz with the Film Club, and LitWit, a literature quiz with LitC, celebrating intellectual diversity and enriching Quizone's season.



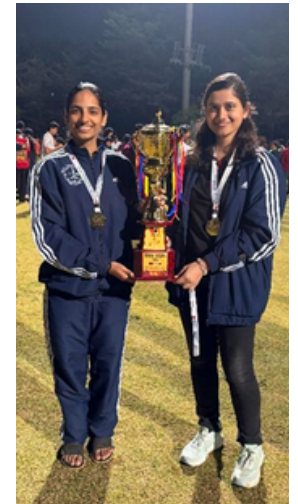
Quizone shone at IICM 2024, with Om Prakash Swain and Rabmit Das winning second place in the General Quiz, highlighting the club's dedication to intellectual excellence.



## Sports Club

The Inter-Institute Sports Meet (IISM) 2024 was a landmark event for the NISER Sports Club, showcasing remarkable talent and determination. Competing against 10 institutes, including 7 IISERs, IISc, and CEBS, NISER achieved a historic 4th place, improving from 9th in 2023 and 7th in 2022. Highlights included a 2nd overall position in athletics with 16 medals, including six golds, and Vamsi Krishna being named the best athlete of IISM 2024.

NISER Sports Club excelled across various sports, earning medals in chess (silver), cricket (bronze), basketball (bronze), table tennis (gold and silver), and volleyball (bronze).



Notable individual achievements included:

- 3K (Women) – Ms. Avani KV (Gold)
- 1500 (Women) – Ms. Avani KV (Gold)
- Shotput (Women) – Ms. Neharika Verma (Gold)
- Javelin (Women) – Ms. Neharika Verma (Silver)
- Discuss (Men) – Mr. Tarun Meena (Bronze)
- 100 (Men) – Mr. Subhasis Nayak (Silver)
- 200 (Men) – Mr. Subhasis Nayak (Silver)
- Javelin (Men) – Mr. Subhasis Nayak (Silver)
- 400 (Men) – Mr. Sanjay Kumar (Silver)
- 100 (Men) – Mr. Vamsi Krishna Taviti (Gold)
- Long Jump (Men) – Mr. Vamsi Krishna Taviti (Silver)
- 4x100 Relay (Women) – Ms. Aadya Durgaprasad Harichandan, Ms. Rachel Sara Paul, Ms. Sumedha Malepati, Ms. Diya Elizabeth Prince (Silver)
- 4x100 Relay (Men) – Mr. Vamsi Krishna Taviti, Mr. Subhasis Nayak, Mr. Suraj Pradhan, Mr. Sanjay Kumar (Gold)
- 4x400 Relay (M) – Mr. Vamsi Krishna Taviti, Mr. Sanjay Kumar, Mr. CL Srinivas, Mr. Suryakant Mangaraj (Gold)

Despite challenges like injuries and tough competition, the athletes displayed resilience and sportsmanship. While NISER's facilities and coaching played a key role, areas like travel and infrastructure need improvement. This milestone performance sets the stage for even greater achievements in future IISM events.







## *The Free Radicals*

During Umang 2024, the club hosted a quiz on chemistry in history, movies, anime, novels, and ads, sparking curiosity and engaging participants from diverse backgrounds.

During NISER OPEN DAY, a team of volunteers conducted engaging chemical experiments like the flame test, color-changing indicators, and dramatic reactions such as 'elephant toothpaste' and 'genie in a bottle.' The session ended with an interactive Q&A, reflecting participants' curiosity and enthusiasm for chemistry.



To ignite curiosity, the club organized the Internship Talk Series and Alumni Interaction Session, inviting both undergraduate and graduate speakers to share insights from their research projects. This initiative provided a platform for participants to learn valuable lessons and gain inspiration from real-world scientific experiences.



## *Zaariya*

Zaariya marked Raksha Bandhan by honoring campus security staff for their crucial role in maintaining safety. Volunteers tied handmade rakhis on them as a gesture of gratitude and care, symbolizing the protective bond celebrated during the festival. The event highlighted community spirit, kindness, and appreciation for their daily dedication.

On the eve of Diwali, the club hosted a lively Food Fest, inviting the NISER community to enjoy a diverse range of food stalls run by passionate volunteers. The event celebrated the festive spirit of Diwali while doubling as a fundraiser for the club. Many volunteers generously contributed a portion of their earnings to support the club's initiatives, making it a delightful and purposeful celebration.

Zaariya paid a heartfelt visit to Prativa Orphanage, bringing groceries, books, and craft supplies for the children. Volunteers organized fun games and creative art activities, filling the day with excitement and joy. The meaningful contributions and shared moments left a lasting impression, reinforcing Zaariya's commitment to supporting impactful initiatives like this.







# Vibes

## NISER NEWSLETTER

### Connect With Us

+91 674 2494515  
vibes@niser.ac.in

### Content & Design

Mr. Bidyut S S Mohanty

### Catch Us Online

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Twitter @niser\_official LinkedIn @niser-official



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### INSIDE:

Breakthroughs,  
Highlights and  
Achievements.