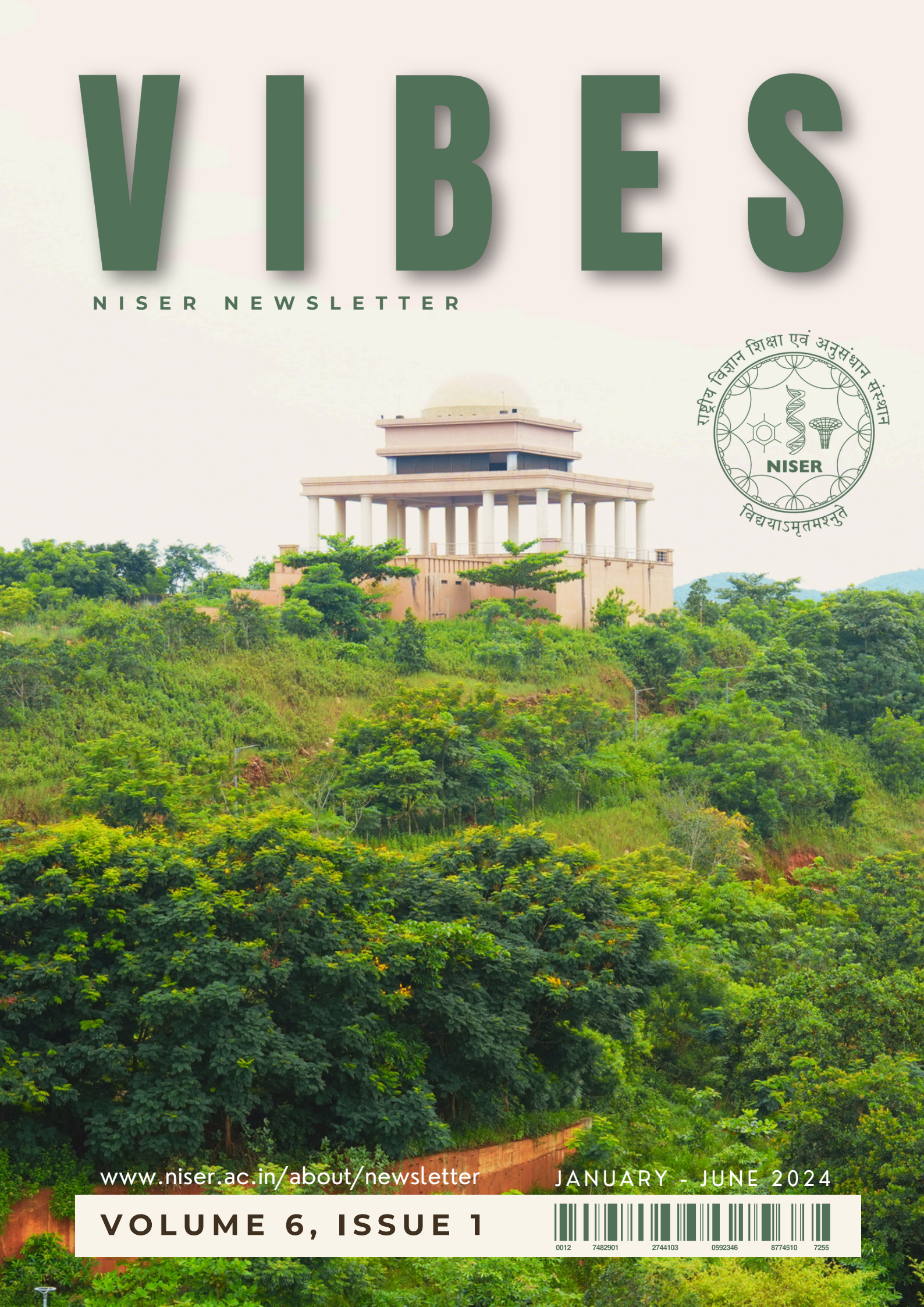
VIBES

NISER NEWSLETTER



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JANUARY - JUNE 2024

VOLUME 6, ISSUE 1

TABLE OF CONTENTS

MESSAGE FROM THE DIRECTOR

Dear Friends,

I'm thrilled to unveil Vibes for January - June 2024, bursting with NISER's exhilarating achievements!

This period has been exciting: The DAE has approved a NABL Accredited Calibration Laboratory for radiation dosimetry. Collaborations with Bharat Electronics, Micropack Pvt Ltd, and Karnataka Hybrid Micro Devices Ltd have led to a cutting-edge silicon pad sensor prototype for the FOCAL detector at LHC-CERN.

Our faculty shine with Dr. Manas Ranjan Sahoo and Prof. C. Gunanathan named INSA Associate Fellows for 2024, and Prof. Bedangadas Mohanty honored with the J. C. Bose Fellowship. Dr. Priyadarshi Chowdhury and Dr. Narayan Rana continue to make global impacts, while Dr. Bishnu P. Biswal leads a new Max Planck Institute collaboration. Additionally, Prof. Subhankar Bedanta is now a Senior Member of the IEEE Society, and Dr. Aritra Banik has been elected to the ACM India Council.

Student achievements are remarkable too, with Dr. Samapan Bhadury, Dr. Shyam Kumar Banjare, Dr. Ashish Pandav, and Dr. Tusar Kanta Acharya winning the HBNI Outstanding Doctoral Students Award. Alumnus Mr. Prajnanandan Giri ranked 24th in the UPSC Civil Services Exam, and Ms. Advita Sharma topped the CSIR-NET Life Sciences Exam.

My sincere thanks to the entire NISER community and contributors who drive our progress and enrich this newsletter.

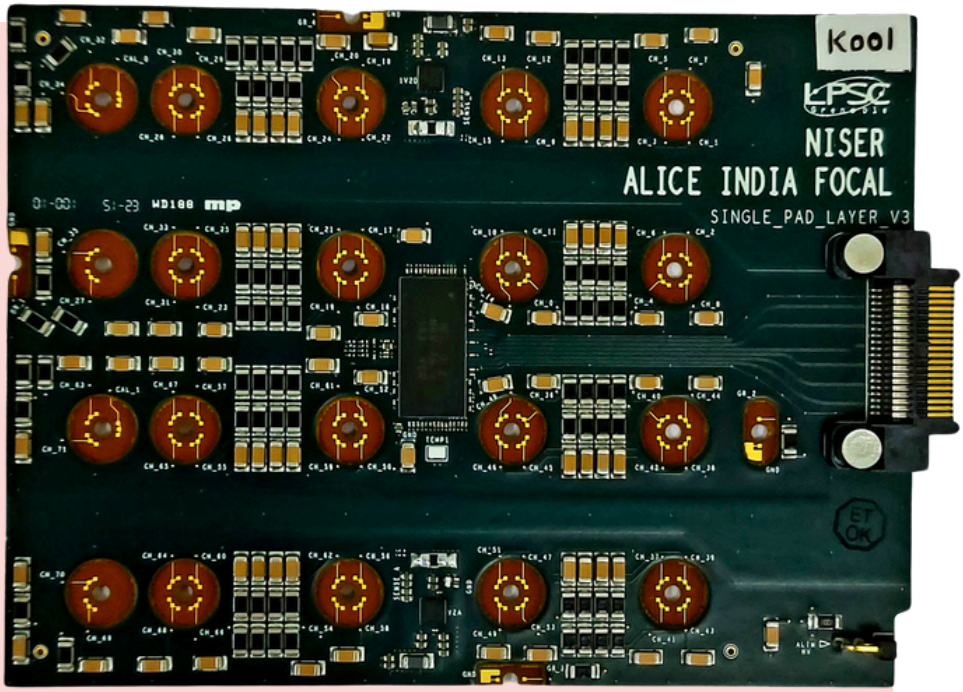
Prof. Hirendra Nath Ghosh
Director, NISER

ADVANCED FACILITIES, SERVICES AND EQUIPMENT

Some of the major facilities that we have recently added to our fairly rich research infrastructure:

CENTER FOR MEDICAL AND RADIATION PHYSICS

Detector Innovation and Industry Partnerships

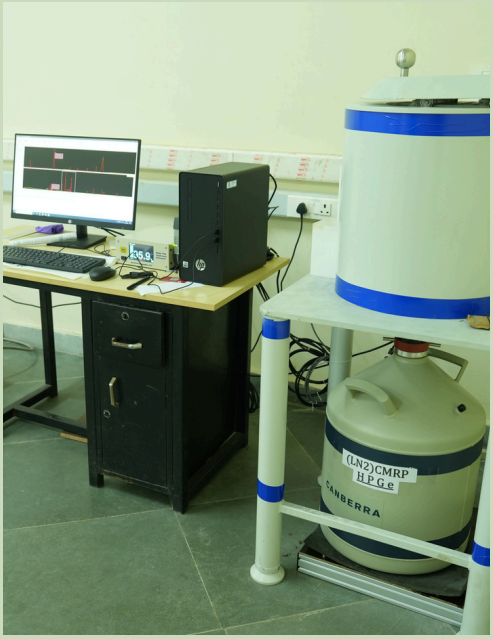


NISER, in collaboration with Bharat Electronics, Micropack Pvt. Ltd., and Karnataka Hybrid Micro Devices Limited (KHMDL), has launched a groundbreaking project to develop India's first array of 25 pad n-type silicon sensors on six-inch wafers for the Forward Calorimeter (FOCAL) detector at LHC-CERN. The project includes creating a ten-layer PCB assembled in India. These sensors have been successfully tested at both NISER and CERN. Two papers on their design and performance have been submitted for publication, showcasing NISER's dedication to advancing research and technology.

NABL Accredited Calibration Laboratory

NISER has secured DAE approval to establish a NABL Accredited Calibration Laboratory. This advanced facility will calibrate Cylindrical Ionization Chambers, Parallel Plate Ionization Chambers, and Well Type Ionization Chambers used in Radiation Oncology. It will also serve as a training center for M.Sc. students in Medical and Radiological Physics, focusing on radiation dosimetry and protection.

The five-year project, in collaboration with BARC and IGCAR, will enable the calibration of therapy-level radiation dosimeters at hospitals in eastern and northeastern India, in compliance with AERB regulations. The laboratory will provide calibration certificates for absorbed dose to water and Air Kerma Strength/Reference Air Kerma Rate, enhancing accuracy and safety in radiation therapy.



SCHOOL OF BIOLOGICAL SCIENCES

Automatic Cage Washing System, Animal House

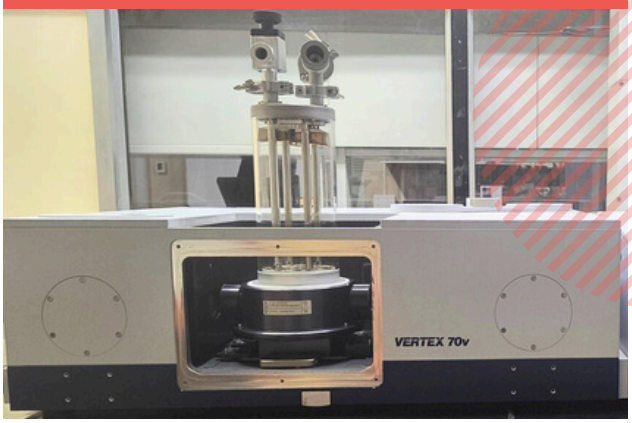
Automatic Cage Washing System

The new automatic cage washing facility has transformed lab operations with its advanced washing units, automated cycles, and efficient drying systems. This upgrade greatly improves hygiene, reduces manual labor, and enhances animal welfare by maintaining a pristine environment.

Upgradation of Infectious Disease Biocontainment

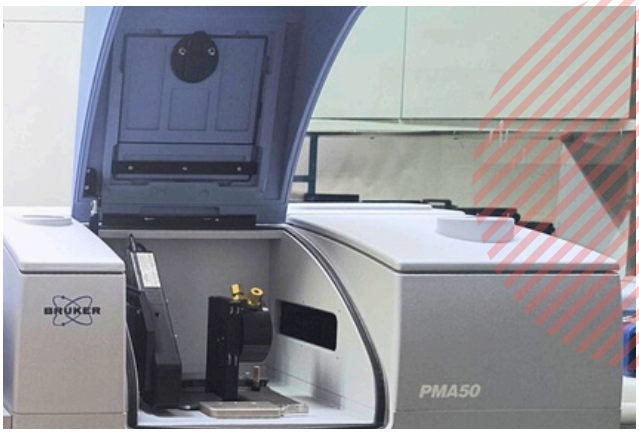
The Infectious Disease Biocontainment Lab has recently undergone a major upgrade, enhancing safety and operational capabilities. The facility now boasts advanced negative containment units that effectively prevent pathogen escape. A new pass-through autoclave ensures thorough sterilization of biomedical waste before it exits the containment area. Upgraded wet showers provide comprehensive decontamination for personnel. These enhancements significantly elevate biosafety measures, supporting cutting-edge infectious disease research and ensuring a safer working environment for researchers.

SCHOOL OF CHEMICAL SCIENCES



Matrix Isolated Vibrational Circular Dichroism (MI-VCD) Spectroscopy

Vibrational circular dichroism (VCD) is a cutting-edge spectroscopic technique for examining the self-aggregation of chiral molecules and their interactions with guest molecules, with exceptional sensitivity to conformational details. However, at room temperature, VCD spectra can blur with flexible molecules having numerous conformations. The combination of matrix isolation (MI) and VCD spectroscopy (MI-CD) offers a game-changing solution by trapping these molecules in a cold noble gas matrix (10 to 30K). This technique narrows spectra by reducing conformational diversity and eliminating solvent effects, providing razor-sharp details ideal for precise spectral analysis, chiral recognition, chirality transfer, and photoisomerization studies. By freezing the sample in an inert matrix, MI-CD reveals subtle spectral features that are otherwise obscured, enhancing the understanding of molecular behavior and interactions at a fundamental level.



ACADEMIC EVENTS ORGANIZED

The School of Biological Sciences hosted the "**11th International Symposium on Plant Photobiology**" from January 9 to 12, 2024, featuring an EMBO workshop on "Current Trends in Plant Photobiology," with a focus on photoreceptors, light perception, and optogenetic tools.

In collaboration with Wiley India, NISER's Central Library hosted an Author Workshop titled "**Secrets of Getting Published in High-Impact Factor Journals**" on January 19, 2024. Tailored for NISER's faculty members, scientific staff, research scholars, and postdoctoral fellows, the workshop was led by Dr. Yateendra Joshi, an Academic Publication Trainer from Wiley India.

The School of Physical Sciences hosted the "**Advanced School & Workshop on Multiloop Scattering Amplitude**" from January 15 to 19, 2024. The event offered young researchers an overview of multi-loop computation techniques, covering advances in Feynman integrals, infrared subtraction, and resummation while fostering scientific exchange within the perturbative QCD community in India.

Quarterly Union for Academic Discourse Mini-Symposium

On January 27, 2024, the **Quarterly Union for Academic Discourse** (QUAD) Bhubaneswar 2024 kicked off its inaugural mini-symposium on "Cellular Structure, Function, and Homeostasis." Hosted by NISER and ILS Bhubaneswar, with support from Prof. H. N. Ghosh and Dr. Debasis Dash, the event attracted 102 participants from Utkal University, IIT Bhubaneswar, IISER Berhampur, and SOA University for a day of engaging talks, presentations, and discussions.

The Digital University Kerala, IIT Kharagpur, TIFR Hyderabad, and NISER Bhubaneswar co-hosted the "**Machine Learning for Science**" workshop from February 1 to 4, 2024, in Thiruvananthapuram. The event showcased top experts exploring how machine learning can transform scientific research through sessions, presentations, and discussions.

In collaboration with the Tata Memorial Center, NISER's Center for Medical and Radiation Physics hosted a "**World Cancer Day**" event on February 4, 2024. The program, themed "Close the Care Gap," focused on raising awareness and promoting action in cancer prevention and control through talks, interactive sessions, and expert discussions.

Summer Outreach Program in Mathematics (SOPM)

World Cancer Day

Particle Therapy Master Class

The School of Computer Sciences at NISER, in collaboration with IIT Bhubaneswar, hosted the "**ACM India Annual Event 2024**" from February 8 to 10. The event featured ACM Turing Award winner Robert Metcalfe and brought together top computer scientists to celebrate innovation, share research, and discuss the future of technology.

The School of Mathematical Sciences hosted an exhilarating "**Pi (π) Day**" celebration on March 14-15, 2024, featuring dynamic talks, a thrilling thesis competition, lively panel discussions, and captivating math demonstrations. The event showcased the vibrancy of mathematical research at NISER, uniting students, faculty, and enthusiasts to celebrate the marvels of mathematics and the significance of Pi.

The "**Particle Therapy Master Class**," organized by CMRP NISER in collaboration with the International Particle Physics Outreach Group on March 15, 2024, offered a deep dive into the future of healthcare through particle therapy. Attendees explored the fundamentals of particle therapy, and advanced radiotherapy treatment planning with MatRad software, and participated in hands-on sessions to enrich their knowledge and skills.

NISER's Outreach Team hosted the "**Vigyan Pratibha Teachers' Training Workshop**" from April 1 to 5, 2024, with 74 teachers. Supported by DAE and in collaboration with HBCSE and IOP, the workshop focused on improving teaching skills and fostering scientific talent in students across Odisha, Chhattisgarh, and Andhra Pradesh.

The School of Mathematical Sciences hosted the "**Summer Outreach Program in Mathematics (SOPM 2024)**" from May 20 to June 8, 2024. The program featured interactive lectures, hands-on workshops, and collaborative problem-solving sessions to inspire and educate participants about mathematics, while also fostering connections between attendees and experts.

The School of Mathematical Sciences hosted the "**Advanced Instructional School for Hyperbolic Conservation Laws**" from May 27 to June 15, 2024. This intensive program provided research scholars with advanced training in conservation laws, featuring interactions with leading researchers to deepen expertise and encourage collaboration.

TALKS & SPECIAL LECTURES

Talk on Cyber Security & Responsible Use of Social Media

Conduct Rules and the RTI Training Session

On January 3, 2024, NISER's Computer Centre hosted a talk on "**Cyber Security and Responsible Use of Social Media**," featuring Shri S. K. Priyadarshi, IPS Commissioner of Police (Bhubaneswar-Cuttack), and ACP Ms. Anjana Tudu. They offered crucial insights into digital security and responsible social media use, equipping attendees with key knowledge for safe digital navigation.

On January 18, 2024, NISER hosted a training session on "**Conduct Rules and the Right to Information (RTI)**" led by Mr. G. Venkatesan, Director of ATI, Mumbai. The session aimed to enhance staff and faculty understanding of conduct regulations and RTI procedures, providing essential knowledge for effective navigation and adherence to best practices.

On February 6, 2024, the School of Humanities and Social Sciences hosted a lecture on "**Vikshit Bharat @2047**" by Professor Pravakar Sahoo of NITI Aayog. The talk explored India's development vision for 2047 and its economic and financial strategies.

On April 12, 2024, the Optica Student Chapter at NISER hosted the "**Nobel Lecture Series in Physics and Chemistry**," featuring Prof. Hirendra Nath Ghosh and Dr. Shovon Pal. The event offered deep insights into groundbreaking research in physics and chemistry.

On April 19, 2024, Dr. Akhilesh Gupta, Senior Adviser at DST and former SERB Secretary, gave an insightful talk on "**Science, Technology & Innovation in India: Setting Up Anusandhan National Research Foundation**."

On May 16, 2024, for the International Day of Light, the Optica Student Chapter hosted a colloquium with Prof. Venugopal Achanta. His talk, "**Quantum Metrology and Role of Optics**," covered advancements in quantum metrology and optics.

On June 18, 2024, Prof. Manoj Panda of the 16th Finance Commission gave a lecture on "**Tasks Before the 16th Finance Commission**," outlining its key challenges and role in shaping India's financial landscape.

Outreach Talk Series

On February 16, 2024, as part of the NISER Outreach Popular Talk series, Prof. Naba K. Mondal, INSA Senior Scientist at the Saha Institute of Nuclear Physics, delivered a lecture titled "**The World of Neutrinos**." He explored neutrinos' fundamental properties and their crucial role in the universe, highlighting their significance in advancing our understanding of cosmic phenomena and the latest research in neutrino physics.

On January 19, 2024, as part of the NISER Outreach Popular Talk series, Prof. P. Balaram, Distinguished Professor and former IISc Director, gave a lecture titled "**The Origins of Life: The Evolution of Biochemistry and the Birth of Biology**." He explored the evolution of biochemistry and its role in developing biology, providing deep insight into the origins of life. His talk highlighted how early biochemical processes laid the groundwork for modern biological sciences and offered a thought-provoking view of life's development.

Outreach Talk on "The Origins of Life"

The Free Radicals Talks

On January 13, 2024, TFR hosted Prathyumann KR's talk, "**A Quick Introduction to Bioorthogonal Chemistry**." He explored how bioorthogonal reactions enable precise chemical interactions in biological systems, highlighting their use in imaging and anti-tumor therapies.

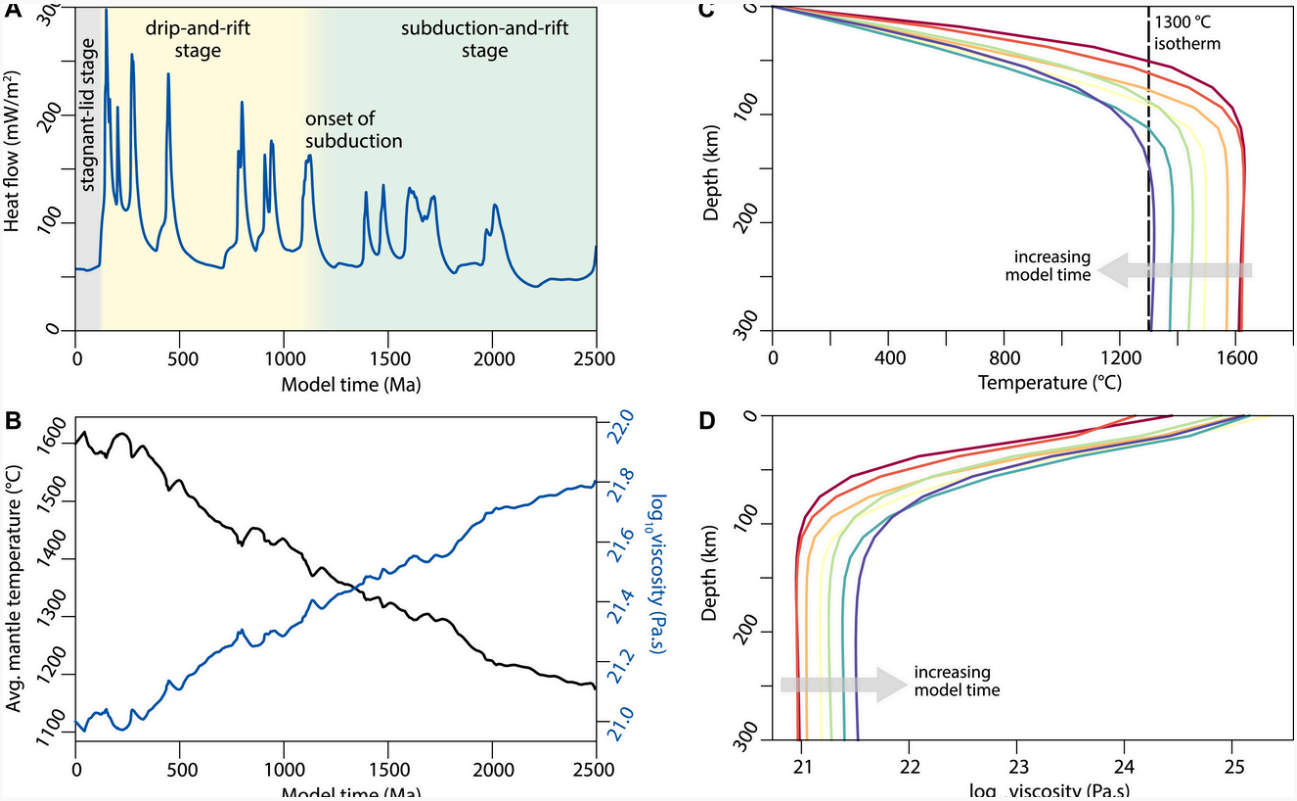
On January 20, 2024, Devendra Tiwari presented a talk "**A Brief Overview of Benzyne Chemistry**," covering benzyne's role as a reactive intermediate, its generation methods, and its use in natural product synthesis and pericyclic chemistry.

Sourajit Das presented a talk on "**Introduction to Pincer Compounds**," focusing on their growing interest due to significant catalytic potential and low toxicity. He highlighted the benefits of these first-row transition metal complexes in green chemistry, especially for hydrogenation and dehydrogenation reactions.

Alumni Connect

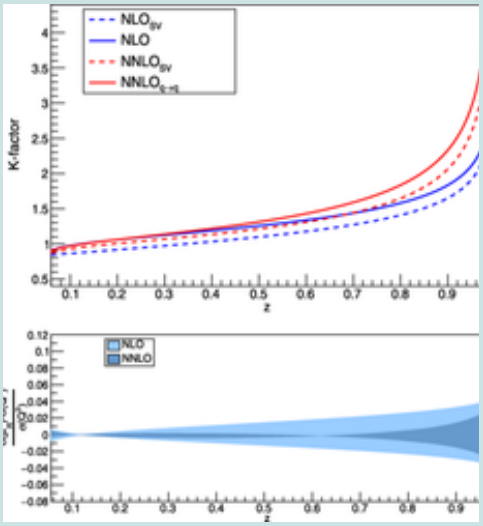
Mr. Prajnanandan Giri, an alumnus of NISER (Int. MSc./2020/School of Chemical Sciences), has brilliantly secured All India Rank #24 in the UPSC Civil Services Examination 2023. Previously, he made impactful contributions as the Assistant Collector at the Office of the Sub-Collector, Karanjia, Mayurbhanj, Odisha.

RESEARCH & DISCOVERY



Early Earth's Plate Tectonics: A Cooling Model

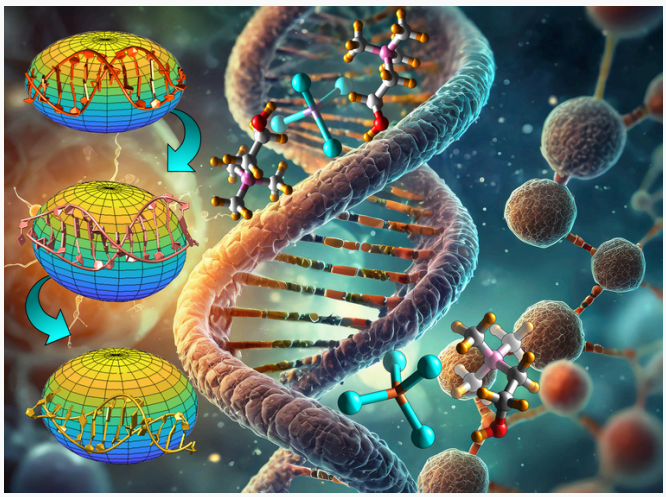
A multinational team of scientists, including **Dr. Priyadarshi Chowdhury** from the School of Earth and Planetary Sciences at NISER, has found evidence suggesting that non-plate tectonic modes were more prevalent on early Earth around 2.5 billion years ago. Their findings, published in ***Geology***, reveal that subduction and rift systems may have spontaneously developed from an earlier drip-and-rift tectonic mode in response to the mantle's secular cooling. This cooling process, occurring over hundreds of millions of years, increased mantle viscosity and lithosphere strength, ultimately leading to the establishment of rigid plates and the initiation of plate tectonics.



NNLO Corrections to Deep-Inelastic Scattering

A group of scientists, including **Dr. Narayan Rana** from the School of Physical Sciences at NISER, has presented the first results for the next-to-next-to-leading order (NNLO) corrections to the semi-inclusive deep-inelastic scattering process in perturbative quantum chromodynamics. Their study, published in ***Physical Review Letters***, provides complete analytical contributions for the quark-initiated flavor nonsinglet process and demonstrates that NNLO corrections significantly reduce residual scale dependence, highlighting their importance for precision QCD calculations.

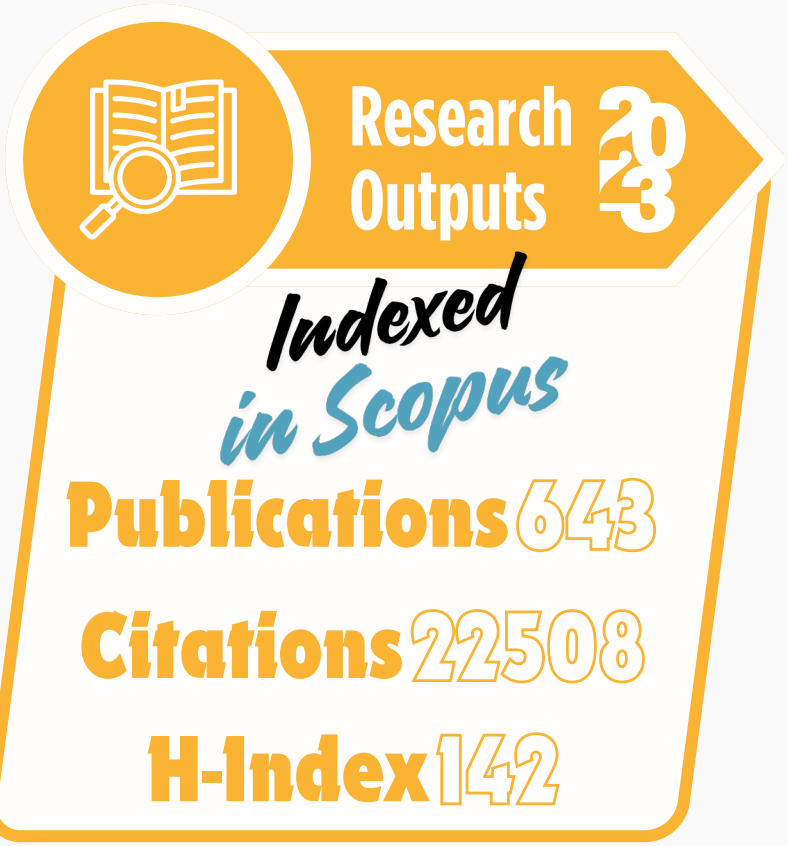
Ionic Liquids as Superior Agents for DNA Compaction



The research team led by **Prof. Himansu Sekhar Biswal** from the School of Chemical Sciences at NISER Bhubaneswar, along with Dr. Malay Kumar Rana from the Department of Chemical Sciences at IISER Berhampur, has discovered that ionic liquids (ILs) are effective for DNA compaction. DNA compaction is essential for cellular function, organizing and condensing DNA strands within cellular compartments. This breakthrough offers potential applications in nanomaterial templating, stress mitigation, gene regulation, photocontrol of gene expression, and DNA protection.

The PhD students Ms. Kiran Devi Tulsiyan and Mr. Saroj Kumar Panda conducted advanced experiments and theoretical studies, revealing that choline-based magnetic ionic liquids (ChMILs), which are non-cytotoxic and readily accessible, induce bending or compression of DNA helices in length and expansion in diameter (from elliptical to spherical), resulting in DNA compaction. They also found that this compaction can be reversed by adding NaCl, a crucial factor for biomedical applications. Their study, titled "Compaction and Decompaction of ct-DNA," has been published in ***Chemical Science***, a prestigious, high-impact journal by the Royal Society of Chemistry, and is highlighted on the journal's cover. This research provides valuable insights into how eco-friendly ionic liquids influence DNA packing, potentially leading to innovative methods for storing and protecting genetic material, with significant implications for medicine and biotechnology.

Homi Bhabha National Institute in **NIRF India Rankings** 2024: Secured the **27th** position in the **Overall** category, ranked **16th** in the **University** category, and achieved **6th** place in the **Research** category.



AWARDS & HONOURS

Prof. C. Gunanathan from the School of Chemical Sciences has been elected an **INSA Associate Fellow** for 2024, recognizing his exceptional contributions to chemistry.

Dr. Manas Ranjan Sahoo from School of Mathematical Sciences has been elected an **INSA Associate Fellow** for 2024 recognizing his exceptional contributions to mathematics.

Dr. Aritra Banik has been acclaimed as a new member of the esteemed **ACM India Council**, a testament to his exceptional contributions.

Prof. Bedangadas Mohanty has been awarded the **J. C. Bose Fellowship** for the second time, recognizing his continued impact in advancing physical sciences.

Prof. Subhankar Bedanta has been selected as a Senior Member of the **IEEE Society**, a testament to his exceptional expertise and contributions in the field.

Dr. Bishnu P. Biswal has been appointed **Head of the Max Planck Institute's Partner Group** at NISER, focusing on polymer films and light-matter interactions.

STUDENT ACHIEVEMENTS

Dr. Samapan Bhadury, **Dr. Ashish Pandav**, **Dr. Shyam Kumar Banjare** and **Dr. Tusar Kanta Acharya** have been distinguished with the **HBNI Outstanding Doctoral Students Award** for 2023, celebrating their exceptional breakthroughs and remarkable contributions to their fields.

Ms. Advita Sharma, a student from the 2020 Integrated MSc program in the School of Biological Sciences, has topped the **CSIR-NET Life Sciences Examination** nationwide.

Mr. Adithyan Puthukkudi and **Mr. Jeebanjyoti Mohapatra** from the School of Chemical Sciences won **Poster Prizes** at the Inter IISER-NISER Chemistry Meet held from February 23rd to 25th, 2024, at IISER Kolkata.

Mr. Souradeep Dutta, a Ph.D. student from School of Biological Sciences, has received the "**Theodore J. Cohn Research Fund**" for his fieldwork on anthropogenic noise's impact on the Ensiferan community.

Dr. Ashish Pandav's PhD thesis received international recognition with the **RHIC & AGS Thesis Award** at Brookhaven National Laboratory. This award honors exceptional theses on research conducted at RHIC, AGS, NSRL, Tandem, ATF, BLIP, and EIC facilities in the USA.

Mr. Bappaditya Mondal, a Ph.D. student from the School of Physical Sciences, received an **honorable mention certificate** in the RHIC & AGS Poster Competition at Brookhaven National Laboratory, New York.

Ms. Sasmita Behera, **Mr. Laxmikanta Gual**, and **Mr. Ansuman Das** from the School of Humanities & Social Sciences won the **Best Paper Award** in the "Climate Solution" category in a national level competition organized by Development and Environment Futures Trust (DEFT) on April 11, 2024.

WELCOMING NEW FACES

Our Newest Team Members

Mrs. Nijun Mishra
Scientific Officer - C at Center for Medical and Radiation Physics joined on February 28, 2024.

Dr. Malaya Kumar Sahoo
Scientific Assistant - C at School of Chemical Sciences joined on April 8, 2024.

Mr. Ravi Ketavath
Scientific Assistant - C at School of Chemical Sciences joined on April 9, 2024.

Shri Alok Ranjan Swain
Scientific Assistant - C at School of Physical Sciences joined on April 17, 2024.

Shri Rajesh Kumar Samal
Technician - B at School of Chemical Sciences joined on April 30, 2024.

Mrs. Manorama Parida
Scientific Assistant - B at School of Computer Sciences joined on May 2, 2024.

Ms. Neeru Meena
Technician - B at School of Biological Sciences joined on May 16, 2024.

Dr. Tapas Ghosh
Scientific Assistant - C at Centre for Interdisciplinary Science joined on May 22, 2024.

OTHER EVENTS


NISER Book Exhibition 2024

REPUBLIC DAY CELEBRATION

With great enthusiasm, NISER celebrated India's 75th Republic Day by hoisting the national flag on campus. Following the flag-raising ceremony and the Director's address, the institute honored exceptional administrative and technical staff members for their remarkable dedication.

Awards were presented to six individuals: Dr. Chandramohan Bathrachalam (SO-D), Mr. Dolananda Pradhan (AO-I), Mr. Jyotiranjan Sahoo (SA-B), Mr. Prakash Chandra Behera (Technician-C), Mr. M. Siba Prasad Rao (Assistant-A), and Smt. Lipsa Das (Assistant-A).

NISER BOOK EXHIBITION 2024

From March 5th to 7th, 2024, NISER's Central Library hosted the NISER Book Exhibition, captivating the entire NISER community. Renowned publishers and vendors showcased a vast collection of textbooks, reference materials, and popular books on Nobel Laureates, Indian scientists, and classics in various genres. The event provided an enriching experience, allowing all NISERites to explore a diverse range of books and expand their literary and scientific horizons.

SWACHHATA PAKHWADA

From March 7 to 20, 2024, the Swachhata Committee and NISER students organized a campaign featuring street plays, quizzes, debates, and art activities to promote cleanliness and sustainability. The initiative also included movie screenings and guest talks to emphasize the importance of hygiene and waste management.

NISER SPORTS DAY

On January 26, 2024, NISER's Sports Day was a vibrant celebration of athleticism and community spirit that saw participation from the entire NISER family. The campus was abuzz with excitement as students, faculty, and staff came together for a day of exhilarating track and field races, intense relay events, and spirited team sports. The atmosphere was electric, with cheers and enthusiasm fueling each competition.

Highlights included thrilling races and dynamic team events, showcasing remarkable skills and fostering camaraderie. Awards were presented to outstanding performers, celebrating their achievements and contributions. NISER's Sports Day not only emphasized the importance of physical fitness but also strengthened the sense of unity and community among everyone involved.

COMMEMORATION OF MARTYRS' DAY

On January 30, NISER held a solemn two-minute silence to honor the death anniversary of Mohandas Karamchand Gandhi, the Father of the Nation, and to pay tribute to the courageous individuals who sacrificed their lives in India's struggle for independence.

2ND P. K. PARIJA LECTURE IN LIFE SCIENCES

NISER had the distinct honor of hosting the Second P. K. Parija Lecture in Life Sciences, made possible by the generous endowment from the Prof. Prana Krushna Parija Charitable Trust (Odisha).

This year's captivating lecture, "Can We Understand an Insect Society?" was delivered by the esteemed Professor Raghavendra Gadagkar, DST Year of Science Chair Professor at the Centre for Ecological Sciences, Indian Institute of Science, Bengaluru. Prof. Gadagkar's presentation provided a fascinating exploration into the complexities of insect societies, enriching our understanding of these remarkable creatures and highlighting the crucial role of interdisciplinary research in unraveling nature's mysteries.

2nd P.K. Parija Lecture in Life Sciences

DAE CV RAMAN LECTURE

On May 10, 2024, NISER proudly welcomed Prof. Ajit Kumar Mohanty, Chairman of the Atomic Energy Commission and Secretary of DAE, for the prestigious DAE CV Raman Lecture. Prof. Mohanty's compelling talk, "Atoms in the Service of the Nation," offered profound insights into the role of atomic science in national development. Organized in collaboration with the Indian Physics Association, this event was not only an educational milestone but also a vibrant celebration of scientific dialogue and collaboration. It marked a significant moment for advancing innovation and strengthening partnerships within the scientific community. The lecture illuminated the path forward, underscoring NISER's commitment to fostering groundbreaking research and contributing to the nation's scientific progress.

HOMI J. BHABHA STATUE UNVEILING

A significant event occurred at NISER on May 10, 2024, when Dr. Ajit K. Mohanty, Chairman of the Atomic Energy Commission and Secretary of the Department of Atomic Energy (DAE), unveiled the statue of Homi J. Bhabha at the Administrative Building. This momentous occasion paid a remarkable tribute to Dr. Bhabha's enduring legacy as a trailblazer in Indian science.

A FLUTE RECITAL BY PANDIT HARIPRASAD CHAURASIA

On March 16, 2024, the SPICMACAY NISER Chapter hosted a memorable flute recital by Padma Vibhushan Pandit Hariprasad Chaurasia Ji at the Pathani Samanta Auditorium, captivating the audience with a night of musical bliss and spiritual elevation.

DAE CV Raman Lecture


Homi J. Bhabha Statue Unveiling


Flute Recital by Pandit H. P. Chaurasia

INTERNATIONAL DAY OF YOGA CELEBRATION

On June 21, 2024, NISER celebrated the 10th International Day of Yoga with a group yoga session and talks on yoga, mindfulness, and holistic health, promoting well-being and community balance.

UTKAL DIBASA CELEBRATION

The 89th Utkal Dibasa at NISER's Pathani Samanta Auditorium featured performances, speeches, and traditional music and dance, celebrating Odisha's cultural and historical achievements. The event was a vibrant tribute to the state's rich heritage and progress.

STUDENT ACTIVITIES

Coding Club

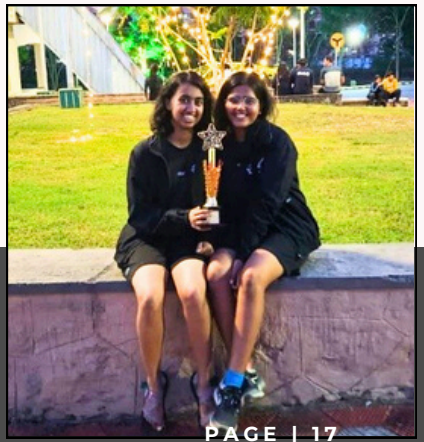
The Coding Club (Student Development Group) had a dynamic first half of 2024. Sagar Prakash Barad (Int. MSc-2020) presented on Remote Development via SSH Servers on January 6. Jyotirmoy Shivottam (PhD-SCoS) covered Git and GitHub essentials on January 12. In March, Aritra Mukhopadhyay (Int. MSc-2020) discussed Gradient Descent and its machine learning applications.

The club also launched "Code N Coffee," a weekly session for CS enthusiasts to discuss tech topics, exchange knowledge, and connect. This initiative fosters a vibrant and supportive tech community.

Sports Club

At the Inter-IISER Sports Meet (December 23-29, 2023), Avani K V won gold in the Women's 1500m and 3000m races. Vamsi Krishna Taviti earned silver in the Men's 400m and bronze in the Men's 100m. Jeevan Nayak claimed gold in the Men's Javelin Throw, Shehzade won gold in the Women's Shot Put, and Tarun Meena took bronze in the Men's Discus Throw. The Women's Tennis team, led by SriUma Maheshwari V, secured bronze in Lawn Tennis.

At VIRAJ in March 2024, Jeevan Nayak won gold in the Men's Javelin Throw. At the AIMS OPEN, Dr. Aniruddha Dutta Roy and Indrajit Paul won the Men's Doubles Lawn Tennis event. At the Khurda Open District Meet in May 2024, Sanjay Kumar earned bronze in the Men's 100m and silver in the Men's 400m, while Surjyakanth secured gold in the Men's 5km race.



The Free Radicals

On January 21, 2024, the club, in collaboration with Zaariya, hosted an interactive chemistry exhibition featuring experiments like soapy-fluffy elephant toothpaste, striking indicators, and colorful flame tests to inspire young learners.

The "Che-Meme-Stry" competition from March 19 to 22, 2024, combined chemistry with creativity, featuring chemistry-themed memes. Winners were chosen based on crowd votes.

The "Whodunit?" murder mystery on April 5, 2024, challenged students to solve a fictional case using their chemistry knowledge. The winning team uncovered the most clues.

Cloth Donation Drive

Prerana 2024

Blood Donation Camp

MathematiX Club

The Club hosted its regular Student Research Seminar (SRS) series, featuring a range of illustrative talks including "An Introduction to Persistent Homology," "Braids and Knots," "Fundamental Theorems of Optimization," and "Combinatorial Aspects of Coxeter Groups.

The Math Club's SUMS series introduced students to mathematical concepts, including a talk on the "Futurama Theorem: The Mind Swap Problem."

The club celebrated Pi Day 2024 on March 14th with a pi(e) cutting ceremony, faculty talks, a "High Pot-thesis" presentation, a panel discussion for first-year students about pursuing mathematics, and interactive math demonstrations.

The Robotech Club

A ten-member team from the club took part in the ISRO Robotics Challenge - URSC 2024, an engineering project focused on developing robots for extra-terrestrial environments. They achieved a top 50 placement out of over 1300 entries from across India in the preliminary round.

Zaariya

On January 21st, Zaariya organized Prerana for the children of NISER's security, IWD, and housekeeping staff to promote scientific thinking. NISER's clubs participated, offering hands-on experiments and engaging activities.

Zaariya held a cloth donation drive from March 20 to 22, 2024, with the collected clothes distributed to those in need, assisted by the Rotary Club.

In collaboration with the Khordha Blood Bank, Zaariya organized a blood donation camp on April 6th, where 91 units of blood were successfully collected.

Zaariya held its annual event, "Your's कृतज्ञतापूर्वक," on January 5th and 6th, allowing participants to send anonymous gifts or letters of gratitude. Zaariya ensured all gifts and letters were distributed confidentially.

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