

DAE Conclave

The Annual Convention of DAE Scientists and Engineers

2024

Creating Innovative Solutions
for a Sustainable Future
through Nuclear Horizons



Organized by
Department of Atomic Energy, GOI and
National Institute of Science Education
and Research, Bhubaneswar

<https://www.niser.ac.in/events/24daeconclave>





OCTOBER 22 TO 26, 2024

DAE CONCLAVE 2024

The annual convention of DAE Scientists and Engineers

The Hon'ble Prime Minister of India Shri Narendra Modi dedicated NPCIL Kakrapar Atomic Power Project 700 MWe indigenous nuclear reactors, KAPP-3 and KAPP-4, to the nation on Feb. 22, 2024.

From AEC to DAE India's Nuclear Program Evolution

The Atomic Energy Commission (AEC) of India was established in 1948, shortly after the country gained independence, reflecting India's ambition to harness nuclear technology for both peaceful and strategic purposes. The AEC was tasked with initiating and coordinating nuclear research and development. However, as India's nuclear program expanded, a more integrated approach became necessary.

The Department of Atomic Energy (DAE) was set up on August 3, 1954, under the direct charge of the Prime Minister through a Presidential Order. The DAE was endowed with greater authority and a broader mandate to oversee and implement all aspects of atomic energy, including research, development, and nuclear power generation. Since its inception, the DAE has focused on developing and deploying nuclear technology for energy and national security, as well as applying radiation technologies in agriculture, healthcare, industry, and basic research. In addition to these core areas, the DAE has advanced several complex technologies, including radio astronomy, supercomputing, particle accelerators, plasma, and cryogenics. This reorganization allowed for a more coordinated and efficient approach, leading to significant achievements in nuclear technology and its diverse applications. One of the other key missions of DAE is to support basic research in frontier areas of science, interaction with universities and academic institutions, support research and development projects that have a bearing in DAE's programmes, and international cooperation in related advanced research areas.

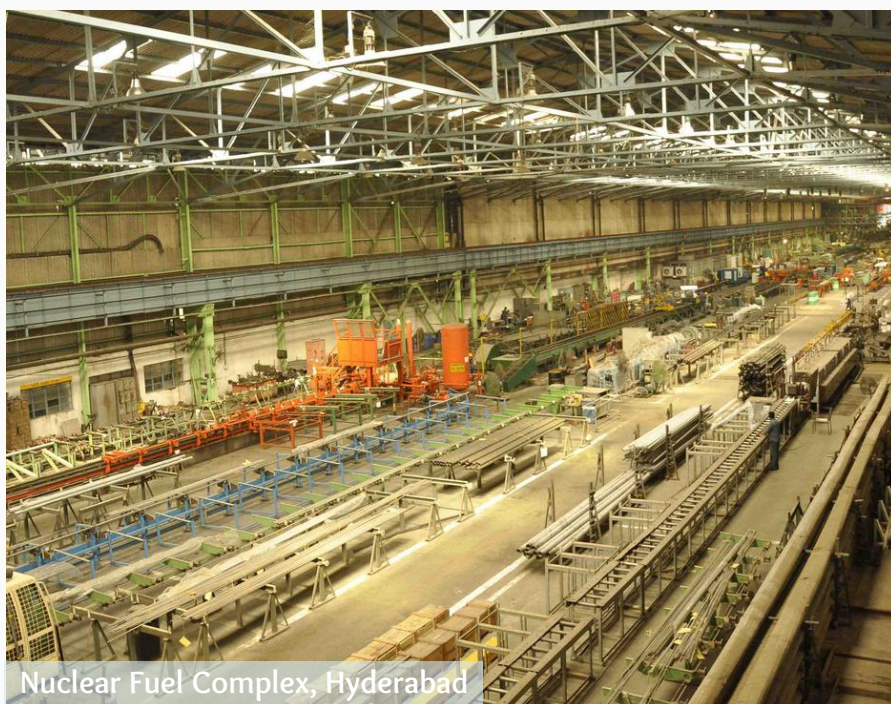
About the CONCLAVE

As the country's leading scientific department, DAE, in the last 70 years, has substantially contributed to several national and international programs. The annual conclave, organized as part of the platinum jubilee celebrations, will discuss the DAE's scientific achievements and make plans for the future. The inaugural version of the conclave is hosted at NISER Bhubaneswar from October 22-26, 2024. This landmark event will provide a platform for experts and participants from all the DAE units and its aided institutions to showcase their scientific and technological developments.

On March 4, 2024, core loading commenced at India's first Indigenous Fast Breeder Reactor (500 MWe) at BHAVINI, Kalpakkam, Tamil Nadu. The event was witnessed by the Hon'ble Prime Minister of India Shri Narendra Modi.



The Conclave will serve as a focal point for discussions on the latest advancements in diverse applications of nuclear science and technology, encompassing critical areas such as energy security, healthcare, food security, water security, waste management, and cutting-edge technologies including unique and critical materials, advance computational technology including quantum Computing, 3D printing technology, mining and processing of atomic minerals and basic and applied research in connected areas.



Nuclear Fuel Complex, Hyderabad

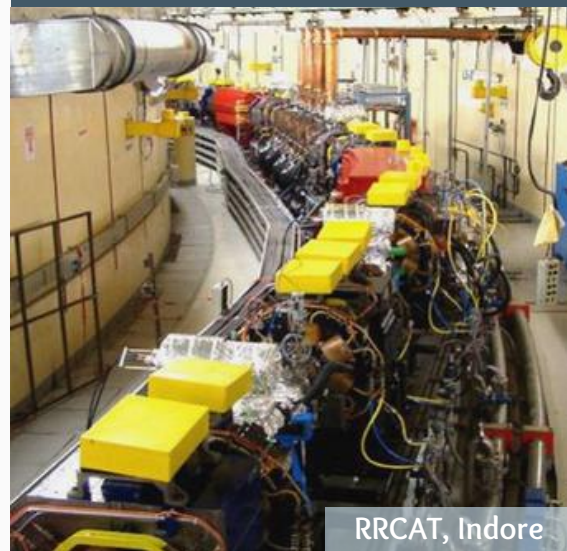
Notably, the participation of around 500 scientists, including experts, giving plenary talks and 300 poster presenters from all units and more than 50 exhibitors will enhance the experience by showcasing state-of-the-art equipment and services related to nuclear science and technology for societal benefits. Moreover, the conclave will contextualize these results against the backdrop of the global target for achieving net-zero carbon emissions and addressing the escalating India's energy demand in the forthcoming years. In addition, the Conclave will also create platforms to provide solutions for Food Security and Health Care through Nuclear Energy for India's 1.6 billion population by mid-century. In doing so, the Conclave will contribute to defining a path forward in the dynamic landscape of nuclear energy research and technology application.

Purpose & Objectives

DAE Conclave 2024 will provide a unique opportunity to achieve the following specific objectives with a goal of building collaboration across DAE units and to present critical developments in the fields of:

- Energy Security
- Food, Water Security, and Urban Waste Management
- Health Care and biological research
- Critical Materials, Advanced Manufacturing Technology, Printing, and cutting-edge Technologies such as LASER, Plasma, AI & ML, Accelerators, Cyber Security, etc.
- Advanced Technologies for Instrumentations and Control Systems
- Scientific accomplishment in basic sciences directed Research and innovations in education and training.
- Entrepreneurship and science translation

Also to exhibit DAE technologies for the benefit of society, students, young researchers, Industries, Health Care Professionals, etc.



RRCAT, Indore

Structure & Topics

The conclave will include keynote lectures, plenary talks, short talks, poster presentations, and exhibitions. Finally, a closing session will be held to review the proceedings and provide future recommendations. The scope of the conference is meant to cover, but is not limited to, the following topical areas:



Energy Security

- Nuclear Energy and Climate Change Mitigation: Opportunities and Challenges
- Securing the Nuclear Supply Chain: Challenges and Solutions
- Pioneering the Future of Energy Security: Small Modular Reactors (SMRs) and Beyond
- Hydrogen Production from Nuclear Energy: A Clean Energy Source
- Advanced Reactor Technologies (Molten Salt Reactors, HTGCR, FBRs, etc.): Towards Efficient and Sustainable Energy
- Fuel Cycle: Exploration, Mining, conversion, reprocessing and waste management
- Nuclear Fuel: Design and Fabrication
- Heavy Water Technology
- Pathway for Nuclear Fusion
- Safety, Security and Safeguard by design for advanced energy system

Track-1

Nuclear Energy for Food & Water Security, Health Care & Urban Waste Management

- Towards Sustainable Agriculture: Nuclear Applications for Food Security
- Smart Agriculture: Nuclear Techniques for Crop Improvement
- Revolutionizing Healthcare: Advances in Nuclear Medicine
- Innovative Approaches to Radioisotope Production for Medical Imaging
- Radiation Therapy Breakthroughs: A Paradigm Shift in Cancer Treatment
- Radiation Oncology in the Era of Personalized Medicine
- Biological Effects of Low-Dose Radiation: Current Understanding
- Managing Tomorrow's Waste: Innovations in Urban Waste Management Technologies
- Nuclear Desalination: Addressing Water Scarcity with Innovation

Track-2



Launch of the DAE Digital Library

Advanced Technologies like Quantum Computing, Particle Accelerators, 3D-Printing, etc.

- Unlocking Quantum Potential: Nuclear Science and the Quantum Computing Frontier
- Accelerator Physics and Technology: High Energy Accelerators in Particle Physics
- Innovations in Accelerator-Driven Systems: A Path to Sustainable
- Nuclear Energy
- Artificial Intelligence and Machine Learning
- Precision 3D-Printing: From Prototypes to Production
- Laser and Plasma
- Biotechnology, Space Exploration
- Robotics and Automation, Advanced Instrumentation and Control System
- Nuclear Forensic

Track-3

Critical Minerals and Materials

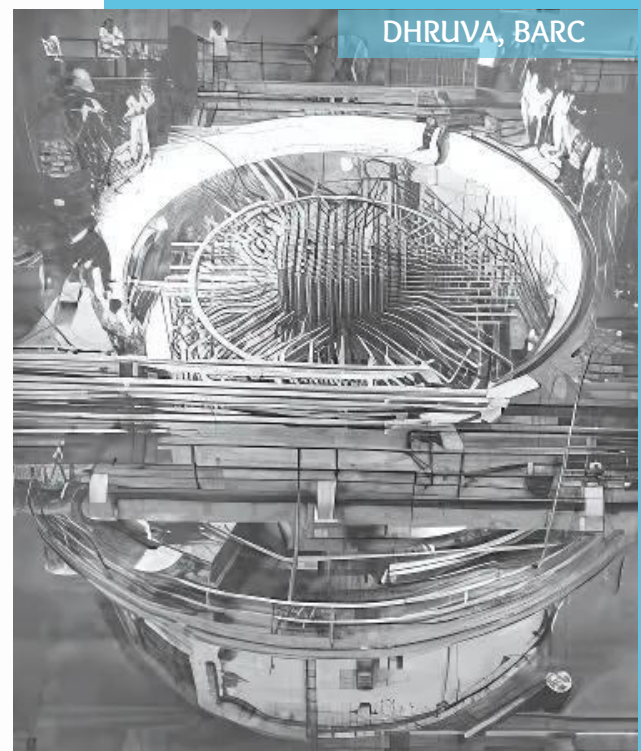
- Critical Minerals and value chain
- Advanced Materials in Nuclear Technology
- Game-Changers in Nuclear Materials: From Discovery to Deployment
- Innovations in Nuclear Fusion Materials: Breakthroughs and Challenges
- Materials Challenges in Extreme Nuclear Environments: Insights and Solutions

Track-5

Basic Science and Technology

- Astrophysics and Cosmology
- Condensed Matter, Statistical, and Nonlinear Physics
- Atomic, Molecular, and Optical Physics
- Particle Physics
- Quantum Information
- String theory
- Computational Science
- Algebra and Representation Theory
- Algebraic geometry
- Functional analysis
- Geometry and Topology
- Number theory
- Disease diagnosis and treatment
- Microbes: Friend and Foe
- Stress, Pain, and Diseases
- Plant Biotechnology

Track-4



EXPECTED OUTCOME

The Conclave will foster cooperation among researchers, technology providers, operators, and academia. Furthermore, by familiarizing participants with various crosscutting technologies, this conclave will offer a conclusive environment for further gearing up and fostering the novel concepts required for advancing cutting-edge technologies.

Registration



Scan to Register

COMMITTEE



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and Secretary, DAE

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- Shri S Satya Kumar, Director (Technical) Heavy Water Board
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- Dr. Sudeep Gupta, Director, Tata Memorial Centre
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- Shri Vivek Bhasin, Director, Bhabha Atomic Research Centre

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- Prof. Satyaprakash Sahoo, IoP
- Dr. Sorab Dalal, Prof & Senior Principal Investigator at ACTREC / TMC
- Dr. Vaishali Naik, VECC
- Dr. Vidhya Sundararajan, AD, SQ&RMG, IGCAR
- Shri Y Balaji Rao, SO/H & GM (C. Lab, NUMAC & SIRD), NFC

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- | | | |
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| • Dr. Chandra Sekhar Purohit | • Mr. Rajeev Singh | • Ms. V S Jerusha Joseph |



INS Arighat

Programme

2024

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OCTOBER

Inaugural Session

- ✓ 08:30 - 09:30 : Registration
- ✓ 09:30 - 10:30 : Inaugural Session
- ✓ 10:30 - 11:00 : Tea/Coffee Break

Session Chair
Prof. A K Mohanty
Chairman (AEC)

Session - I

- ✓ 11:00 - 11:30
Prof. Anil Kakodkar (DAE)
Pursuing Scientific Research in A Mission Mode Organisation
- ✓ 11:30 - 12:00
Prof. K. Vijayaraghavan (NCBS)
Shaping Life Sciences for the Future
- ✓ 12:00 - 12:30
Prof. Ashoke Sen (ICTS)
Gravitational Wave Tails from Soft Theorem
- ✓ 12:30 - 14:00
Lunch Break

Session Chair
Shri Vivek Bhasin
Director (BARC)

Session - II

- ✓ 14:00 - 14:30
Prof. J P Mittal (BARC)
Agony and Ecstasy of Radiation Research
- ✓ 14:30 - 15:00
Prof. Mahan Mj (TIFR)
Random Hyperbolic Geometry
- ✓ 15:00 - 15:30
Prof. Sudeep Gupta (TMC)
Delivering Affordable Cancer Care with High Quality and at Scale in India
- ✓ 15:30 - 16:00
Tea/Coffee Break

Session Chair
Prof. V Ravindran
Director (IMSc)

Session - III

- ✓ 16:00 - 16:30
Prof. Bedanga Mohanty (NISER)
Recreating microsecond old universe conditions in the laboratory - science and societal benefits
- ✓ 16:30 - 17:00
Prof. Jayram Chengalur (TIFR)
Probing galaxies and the Cosmos with the Giant Metrewave Radio Telescope

Session Chair
Prof. Hirendra Nath Ghosh
Director (NISER)

Session - IV

- ✓ 17:15 - 18:00
Shri K N Vyas (DAE)
Global Warming & Relevance of Atomic Energy
- ✓ 19:00 - 22:00
Banquet Dinner



23 OCTOBER

Session Chair
Prof. U Kamachi Mudali
Vice Chancellor (HBNI)

Session - V

- ✓ 09:30 - 10:00
Shri K N Vyas (DAE)
A Perspective on DAE's Many Strengths and A Few Weaknesses
- ✓ 10:00 - 10:30
Prof. Pankaj Chaturvedi (ACTREC, TMC)
Simple Solution for Complex Problems in Cancer - TMC experience
- ✓ 10:30 - 11:00
Tea/Coffee Break

Session Chair
Prof. V Chandrasekhar
TIFR-Hyderabad

Session - VI

- ✓ 11:00 - 11:30
Prof. A. K. Tyagi (BARC/HBNI)
Development of materials, processes and products for nuclear sector: Role of basic sciences
- ✓ 11:30 - 12:00
Prof. M Krishnamurthy (TIFR-H)
Relativistic electron acceleration with mJ lasers at Multi kHz repetition rates
- ✓ 12:00 - 12:30
Prof. Vidita Vidya (TIFR)
Imprints of Early Adversity - how the brain and body keeps score
- ✓ 12:30 - 14:00
Lunch Break

Session Chair
Prof. Gautam Bhattacharyya
Director (SINP)

Session - VII

- ✓ 14:00 - 14:30
Prof. Aditi Sen De (HRI)
Recent developments in quantum technologies
- ✓ 14:30 - 15:00
Prof. Aradhana Shrivastava (BARC)
Recent Advances in Nuclear Physics Research
- ✓ 15:00 - 15:30
Prof. S. M. Yusuf (BARC)
Spin Entanglement and Quantum Technology
- ✓ 15:30 - 16:00
Tea/Coffee Break

Session Chair
Shri K Mahapatra
Director (DCSEM)

Session - VIII

- ✓ 16:00 - 16:30
Dr. Komal Kapoor (NFC)
Gearing up for supply of fuel and core materials for Nuclear Power Program for the next two decades
- ✓ 16:30 - 17:00
Dr. Venkatesh Raman (IMSc)
Space Efficient Suffix Trees

✓ 17:00 - 18:30
POSTER/EXHIBITS

✓ 18:30 - 19:30
CULTURAL PROGRAMME
Odissi Dance Padma Shri Ileana Citaristi

✓ 19:30 - 21:00
Dinner



24 OCTOBER

Session Chair
Shri Pradip Mukherjee
Chief Executive (BRIT)

Session - IX

- ✓ 09:30 - 10:00
Prof. Shashank Chaturvedi (IPR)
Science-Based Development of Plasma & Fusion Technologies
- ✓ 10:00 - 10:30
Dr. Dheeraj Pandey (AMD)
Science of mineral exploration and mining
- ✓ 10:30 - 11:00
Tea/Coffee Break

Session Chair
Dr. Unmesh D Malshe
Director (RRCAT)

Session - X

- ✓ 11:00 - 11:30
Dr. Satya Ram Mishra (RRCAT)
Development of quantum technologies using cold atoms
- ✓ 11:30 - 12:00
Prof. Tapas Ganguly (RRCAT)
Science with Synchrotron Facility
- ✓ 12:00 - 12:30
Prof. Vandana Nanal (TIFR)
Why do we need to worry about Gender inequality in Science?
- ✓ 12:30 - 14:00
Lunch Break
- ✓ 14:00 - 19:00
EXCURSION
- ✓ 19:00 - 21:00
Dinner

**25 OCTOBER**

Session Chair
Dr. C G Karhadkar
Director (IGCAR)

Session - XI

- ✓ 09:30 - 10:00
Prof. B Venkatraman (IGCAR)
Nuclear Power: Fast Breeder Reactor
- ✓ 10:00 - 10:30
Dr. V Rajesh (NPCIL)
Nuclear Power: Present and Future
- ✓ 10:30 - 11:00
Tea/Coffee Break

Session Chair
Prof. K K Nanda
Director (IoP BBSR)

Session - XII

- ✓ 11:00 - 11:20
Dr. Sanjib Kumar Agarwalla (IOP)
Neutrino Tomography of Earth
- ✓ 11:20 - 11:40
Dr. Tapan Mishra (NISER)
Signatures of non-trivial doublon formation using a quantum computer
- ✓ 11:40 - 12:00
Dr. Akashrup Banerjee (SINP)
First results with India's Nuclear Astrophysics Accelerator: FRENA
- ✓ 12:00 - 12:20
Prof. C Gunanathan (NISER)
Sustainable Catalysis Enabled by Metal-Ligand Cooperation
- ✓ 12:20 - 14:00
Lunch Break

Session Chair
Prof. Kalobaran Maity
TIFR-Hyderabad

Session - XIII

- ✓ 14:00 - 14:30
Dr. Sangram Bagh (SINP)
Genetically Engineered Bacteria Identify Prime Numbers, Vowels and Answer Math Questions
- ✓ 14:30 - 15:00
Dr. Vaishali Naik (VECC)
Radioactive Ion Beams - covering the spectrum from Cosmos to Hadron Therapy
- ✓ 15:00 - 15:30
Tea/Coffee Break

Session Chair
Prof. Shreepad Karmalkar
Director (IIT BBSR)

Session - XIV

- ✓ 15:30 - 16:00
Dr. B R Mishra (IREL)
Rare Earths: Critical Material for Energy Transition
- ✓ 16:00 - 16:20
Dr. Nafees Ahmed V (BARC)
Development of Hydrogen Technologies in BARC
- ✓ 16:20 - 16:40
Smt. Manisha Rathee (HWB)
Heavy Water Technologies and Diversified Activities
- ✓ 16:40 - 18:00
POSTER/EXHIBITS
- ✓ 18:00 - 19:00
CULTURAL PROGRAMME
- ✓ 19:00 - 21:00
Dinner

**26 OCTOBER**

Session Chair
Prof. Ashok Ganguli
Director (IISER Berhampur)

Session - XV

- ✓ 09:30 - 10:00
Prof. R Chidambaram (DAE)
DAE Centric Keynote
- ✓ 10:00 - 10:30
Dr. A. K. Nayak (NCPW)
Atomic Energy and way forward
- ✓ 10:30 - 11:00
Tea/Coffee Break

Session Chair
Prof. Dileep Jatkar
Director (HRI)

Session - XVI

- ✓ 11:00 - 11:20
Dr. Manjusha Dixit (NISER)
EEF1A2 Drives Dual- Mode Angiogenesis in Breast Cancer in Normoxia and via a HIF1A-Driven Feedback Loop in Hypoxia
- ✓ 11:20 - 11:40
Dr. Sandip Dhara (IGCAR)
Radiation Damage Studies at Materials Science Group
- ✓ 11:40 - 12:00
Prof. Jacinta D'Souza (CEBS)
A-Kinase anchoring Protein scaffolds: changing partners for different roles
- ✓ 12:00 - 12:20
Dr. Manas Ranjan Sahoo (NISER)
On a Complex Sequence of Vanishing Moments
- ✓ 12:20 - 14:00
Lunch Break
- ✓ 14:00 - 15:30
POSTER/EXHIBITS

2024

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OCTOBER

Closing Session

- ✓ 15:30 - 16:00
Closing Session
Presentation on next conclave

DAE'S KEY UPCOMING INITIATIVES

01

Nuclear Power Plant Expansion

New reactors at Kudankulam and Jaitapur (Will be the largest nuclear power generation project).

02

Thorium-Based Reactors

Developing Advanced Heavy Water Reactors (AHWR) to utilize India's thorium reserves for sustainable energy.

03

Fast Breeder Reactors

Commissioning the Prototype Fast Breeder Reactor (PFBR) in Kalpakkam to recycle nuclear fuel and enhance energy generation.

04

Nuclear Fuel Reprocessing

Expanding capacity for recycling spent fuel and improving plutonium recycling techniques.

05

Nuclear Fusion Research

Participation in the ITER project to explore fusion as a long-term energy solution.

06

Hydrogen Production

Exploring nuclear-powered hydrogen generation as a clean energy source.

07

Small Modular Reactors (SMRs)

Developing compact, flexible nuclear reactors for decentralized, off-grid power generation.

Homi Bhabha National Institute, Mumbai



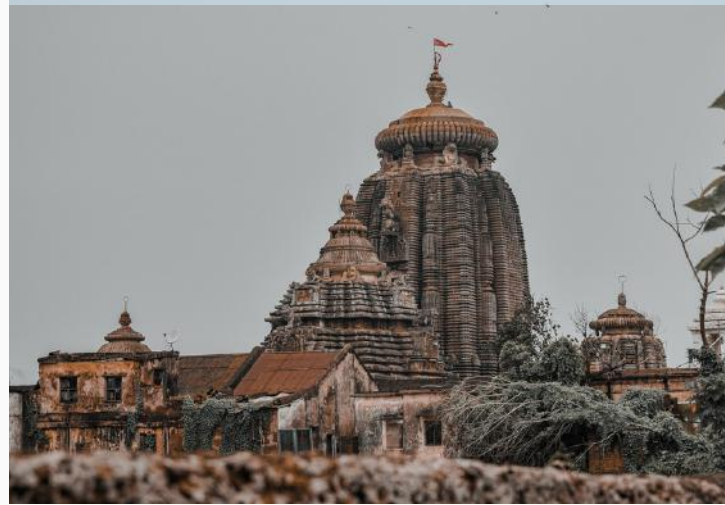
Chilika Lake

BHUBANESWAR THE HOST CITY

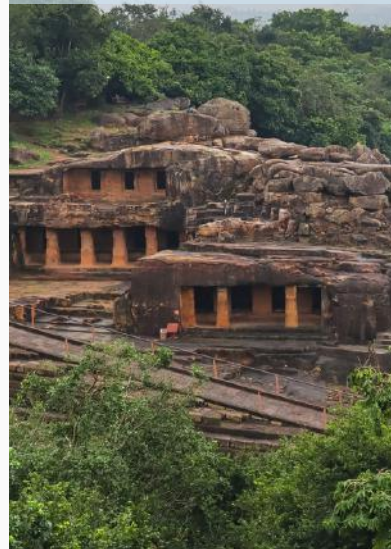
Bhubaneswar, the capital city of Odisha, is a captivating destination that seamlessly blends ancient heritage with modern charm. Known as the "Temple City of India," Bhubaneswar boasts a rich tapestry of historical and architectural marvels. A standout example of this heritage is the Lingaraj Temple, a stunning 11th-century structure dedicated to Lord Shiva, renowned for its intricate carvings and towering spire. Nearby, the Mukteshwar Temple further enhances the city's reputation with its exquisite sculptures and detailed temple art, offering a glimpse into the refined craftsmanship of ancient Odia architecture.

Another notable historical site in Bhubaneswar is the Khandagiri and Udayagiri Caves. These rock-cut caves, dating back to the 2nd century BCE, were created by the Jain rulers and feature intricate carvings and inscriptions. A short drive from the city leads to Dhauili Hill, a site of immense historical significance where Emperor Ashoka is believed to have embraced Buddhism. The Peace Pagoda, or Shanti Stupa, atop the hill offers panoramic views and a tranquil atmosphere, making it a serene spot for reflection.

Lingaraj Temple



Khandagiri & Udayagiri



Dhauili Shanti Stupa



Konark Sun Temple



EXCURSION TO KONARK

There will be an excursion to the Konark Sun Temple and Chandrabhaga Beach. The Konark Sun Temple, a UNESCO World Heritage Site, is renowned for its grand chariot-like design and intricate carvings, showcasing the artistic brilliance of ancient Odisha. Nearby, Chandrabhaga Beach offers a picturesque setting for relaxation and a chance to enjoy the scenic beauty of the Bay of Bengal.

Just a short drive from Bhubaneswar is Puri, home to the renowned Jagannath Temple. This vibrant pilgrimage site is dedicated to Lord Jagannath, an incarnation of Lord Krishna, and is famous for its grand Rath Yatra festival, where massive chariots are paraded through the streets, attracting thousands of devotees and tourists. The temple's distinctive architecture and the fervor of the celebrations provide a deep insight into the region's spiritual and cultural practices. Puri Beach, with its golden sands and lively atmosphere, is an additional highlight, perfect for soaking up the coastal charm and enjoying the seaside.

In Bhubaneswar, vibrant local markets and eateries add a delightful culinary experience to your visit. Exploring these bustling markets allows you to sample a variety of authentic Odia dishes, from pakhala bhata and dalma to mouthwatering sweets like rasgulla and chhena poda. The local street food scene offers everything from crispy bara and spicy aloo dum to freshly made seafood delights. Each dish provides a taste of Odisha's rich culinary heritage, enriched with local spices and ingredients. Dining in these markets not only satisfies your palate but also immerses you in the lively atmosphere of Bhubaneswar, where the blend of flavors and aromas enhances your overall travel experience with the region's unique cultural nuances.



Puri Beach



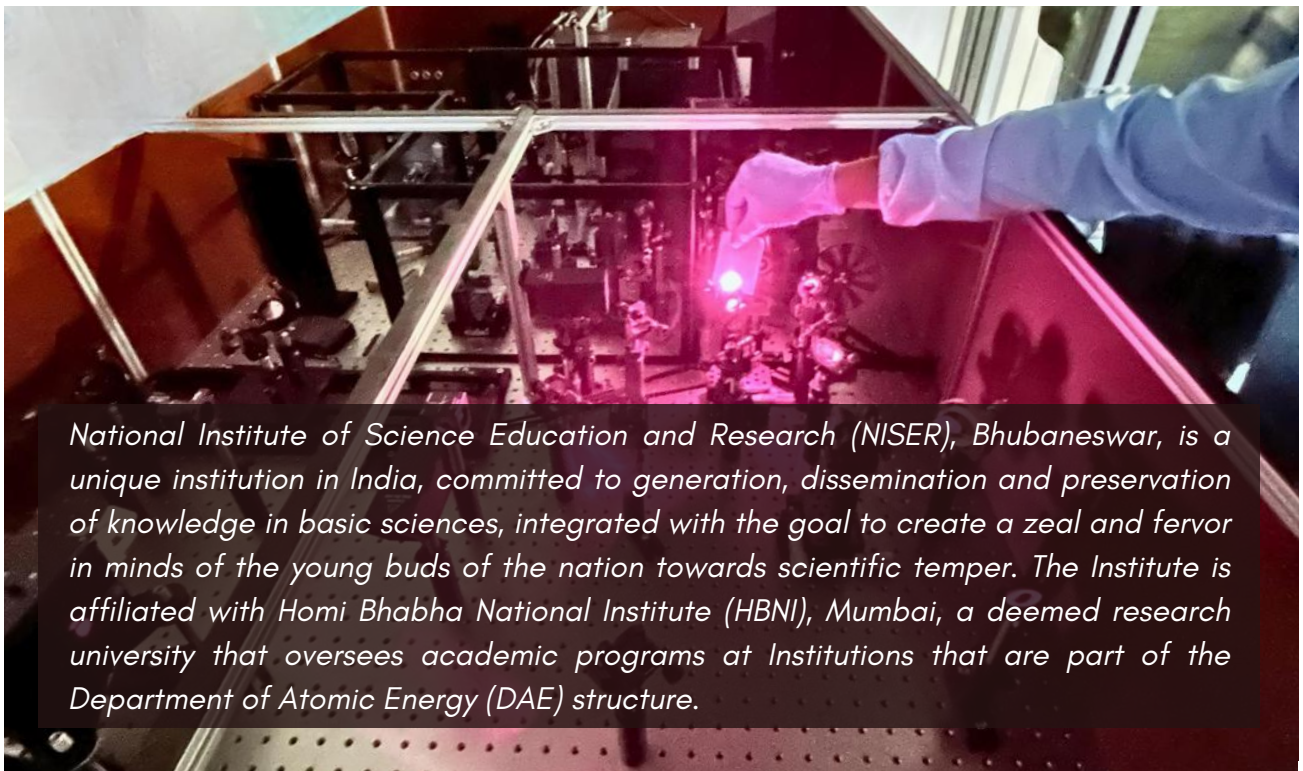
Mahaprasad

Jagannath Temple, Puri



HOST INSTITUTE

National Institute of Science Education and Research



National Institute of Science Education and Research (NISER), Bhubaneswar, is a unique institution in India, committed to generation, dissemination and preservation of knowledge in basic sciences, integrated with the goal to create a zeal and fervor in minds of the young buds of the nation towards scientific temper. The Institute is affiliated with Homi Bhabha National Institute (HBNI), Mumbai, a deemed research university that oversees academic programs at Institutions that are part of the Department of Atomic Energy (DAE) structure.

The activities at NISER can be broadly classified into three categories:

SCIENCE EDUCATION



NISER serves as a centre of excellence for undergraduate and postgraduate education in basic sciences by providing a flexible curriculum and a student to teacher ratio of 8:1. NISER currently offers following programmes in science education for bright and meritorious students selected on all-India basis.

1. An integrated 5-year MSc programme in the core and emerging branches of Basic Sciences to students after their 10+2 Higher Secondary schooling. This in turn will be integrated with PhD programme on the one hand and employment in various R & D organizations and industry in the country on the other.
2. Integrated MSc + PhD programme
3. MSc in Medical & Radiological Physics
4. PhD programme

The principal goal of NISER is to provide excellent environment for the students to foster creativity, imagination and innovation, paving way for a career in scientific research in academic institutes, national & international research & development labs, industries etc.

SCIENCE RESEARCH



NISER encourages both theoretical and experimental research in frontier areas in all branches of science. NISER currently has seven schools and two centers specializing in different areas of science. They are as follows:

1. School of Biological Sciences
2. School of Chemical Sciences
3. School of Computer Sciences
4. School of Earth and Planetary Sciences
5. School of Humanities and Social Sciences
6. School of Mathematical Sciences
7. School of Physical Sciences
8. Centre for Interdisciplinary Sciences
9. Center for Medical and Radiation Physics.



SCIENCE OUTREACH & POLICY



The National Institute of Science Education and Research (NISER) in Bhubaneswar inspires scientific curiosity through engaging outreach programs, including workshops and interactive sessions for students and the public. These initiatives foster a passion for science and encourage exploration of educational and career opportunities in the field.

NISER's faculty also contribute to national science policy by serving on key governmental committees. Their expertise helps shape and refine science and technology policies, ensuring that NISER influences both research advancements and broader scientific policy development.



DAE in Timelapse



12 December 17, 2023

Kakrapar Atomic Power Project Unit-4 (KAPP-4) achieves first criticality.



May 11, 2023

11

Inauguration of ACTREC Cancer Centres, TMH Platinum Block, HBCHRC Visakhapatnam, and foundation stone for new HBCHRC in Jatni.



10 July 22, 2020

The Kakrapar-3 reactor at the Kakrapar Atomic Power Project in Gujarat achieved first criticality.



October 22, 2003

09

Bharatiya Nabhikiya Vidyut Nigam Limited (BHAVINI) was founded under the administrative control of the DAE.



08 May 11 & 13, 1998

India's nuclear tests in Pokhran, "Operation Shakti," are commemorated on National Technology Day, celebrated on May 11.



November 15, 1983

07

The Atomic Energy Regulatory Board (AERB) was constituted by the President of India.



06 May 18, 1974

India conducts its first nuclear test, code named "Smiling Buddha," at Pokhran.



April 30, 1971

05

The Reactor Research Centre, established at Kalpakkam, was renamed the Indira Gandhi Centre for Atomic Research in 1985.



04 August 4, 1956

APSARA reactor achieved criticality and was the first research reactor in Asia to do so.



August 3, 1954

03

The Department of Atomic Energy (DAE) was established.



02 January 3, 1954

The Atomic Energy Establishment, Trombay (AEET) was inaugurated. Later in 1967 it became the Bhabha Atomic Research Centre.



August 3, 1948

01

The Atomic Energy Commission was first setup in August 1948.



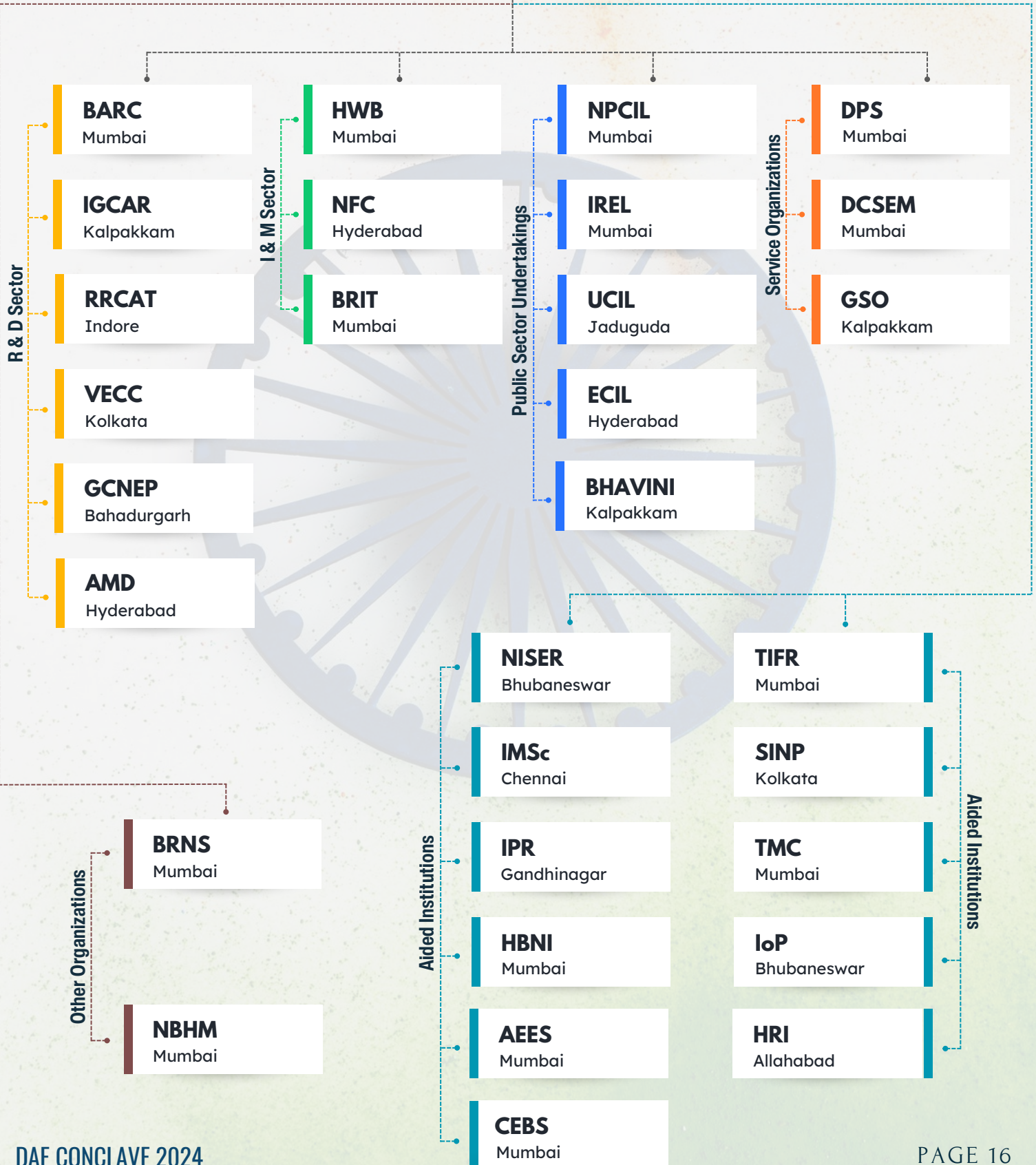
DEPARTMENT OF ATOMIC ENERGY ORGANISATION STRUCTURE



Prime Minister
Govt. of India

**Atomic Energy
Commission**

**Department of
Atomic Energy**



DAE CONCLAVE
Department of Atomic Energy, Government of India

OCTOBER
22 to 26

Organized by
DAE & NISER

2024



CONTACT

Email: dae.conclave@niser.ac.in

National Institute of Science Education and Research Bhubaneswar

At/PO: Jatni, Khurda, Odisha-752050, India

Phone: +91-674-2494005

Website: <https://www.niser.ac.in/events/24daeconclave>