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IITBBS Express

Events, Achievements & Expressions

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Picture Credit: Dr. Chetan

IIT Bhubaneswar and ILS Transfer Novel TB Vaccine Technology to TechInvention

IIT Bhubaneswar and Institute of Life Sciences (ILS), Bhubaneswar, along with the National Research Development Corporation (NRDC), have signed a Quadripartite License Agreement (QLA) with TechInvention Lifecare Limited on 24th November 2025, for the technology transfer and future commercialization of a novel TB vaccine candidate titled "HSP Subunit Vaccine in Adjuvant (DDA) Against Mycobacterium tuberculosis."

Tuberculosis (TB) remains one of the world's deadliest infectious diseases, claiming 1.23 million lives in 2024 alone, as reported by the WHO. Ending the TB epidemic by 2030 is a key global health priority under the United Nations Sustainable Development Goals (SDGs). However, the world continues to rely on the Bacillus Calmette Guérin (BCG) vaccine, developed over a century ago, which provides only limited protection mainly to infants and is largely ineffective in preventing pulmonary TB in adolescents and adults. To address this critical unmet need, a next-generation HSP Subunit Vaccine has been developed through collaborative research led by Prof. Ashis Biswas of Indian Institute of Technology (IIT) Bhubaneswar and Dr. Sunil Kumar Raghav of Institute of Life Sciences (ILS), Bhubaneswar. This vaccine candidate is designed to trigger strong humoral and cell-mediated immune responses while enhancing the protective efficacy of the existing BCG vaccine. In view of its significant public health potential, National Research Development Corporation (NRDC) proactively identified and evaluated this technology and facilitated the licensing process to ensure its advancement.

The technology exchange was held at ILS Bhubaneswar in the presence of several senior dignitaries including Dr. Debasis Dash, Director, ILS; Prof. Shreepad Karmalkar, Director, IIT Bhubaneswar; Prof. Dinakar Pasla, Dean (Sponsored Research & Industrial Consultancy), IIT Bhubaneswar; Dr. B. K. Sahu, Senior Regional Manager & Head – Outreach Offices, NRDC; Syed S. Ahmed, Director & CEO, TechInvention Lifecare Limited; Dr. Sunil Kumar Raghav, Scientist F, ILS Bhubaneswar; Dr. Ashis Biswas, Professor, School of Basic Sciences, IIT Bhubaneswar, along with other distinguished guests. The HSP Subunit Vaccine candidate, jointly developed by the premier institutions ILS and IIT Bhubaneswar, represents a significant advancement in India's efforts to combat Mycobacterium tuberculosis. This collaboration reflects the robustness of India's research ecosystem and its commitment to addressing critical public health challenges. TechInvention Lifecare Limited, the licensed industry partner, will play a key role in translating this indigenous vaccine technology into a viable public health solution. With strong expertise in vaccine development, regulatory readiness, and global health innovation, TechInvention brings deep technical strength and established manufacturing capabilities. This partnership ensures that the jointly developed vaccine candidate advances efficiently from research to product development, validation, and eventual commercialization. It strengthens India's mission to eliminate tuberculosis and underscores the transformative potential of indigenous, research-driven healthcare innovations for national and global health.

IIT Bhubaneswar Signs Research Collaborative Agreement with GRIDCO and NTU Singapore to Propel Renewable Energy Innovation

IIT Bhubaneswar has recently signed a landmark Research Collaborative Agreement with GRIDCO Ltd. and Nanyang Technological University (NTU), Singapore, to advance four major deployment projects across key verticals of renewable energy—Battery Energy Storage, Microgrids, Waste-to-Energy, and Agri-Photovoltaics. This collaboration is poised to enable prototype development, field deployment, and commercial-scale implementation, marking a significant step toward strengthening India's renewable energy ecosystem, particularly in the eastern region.

Through this collaboration, the Institute aims to spearhead transformative initiatives that will shape the country's future energy landscape while supporting the Government of Odisha's energy-transition goals. Furthering this vision, an MoU was also signed between IIT Bhubaneswar, GRIDCO Ltd., Avaada, and ReNew Pvt. Ltd. to establish a Centre of Excellence in Green Hydrogen. The proposed Centre will focus on translational research, entrepreneurship, and commercializable technology development in Green Hydrogen and allied domains. This initiative will catalyse innovation, create a robust research and industry ecosystem, and accelerate Odisha's emergence as a leading hub for energy transition aligned with the Hon'ble Prime Minister's Net-Zero mandate.

The MoUs were formally signed during the Global Energy Leaders' Summit (GELS-25) held in Puri from 5th to 7th December 2025. The ceremony was graced by the Hon'ble Deputy Chief Minister of Odisha, Shri Kanak Vardhan Singh Deo, and the Principal Secretary (Energy), Government of Odisha, Shri Vishal Kumar Dev. Senior representatives from partnering organisations—including Dr. Satyapriya Rath, Managing Director, GRIDCO; Shri Prasant Choubey, President, Avaada; Shri Vivek Jaiswal, Executive Vice President, ReNew; and Prof. Chandrashekhar N. Bhende, Dean (SRIC-In-Charge); Prof. Subhranshu Ranjan Samantaray, Principal Investigator; and Prof. Umaprasana Ojha, Co-Principal Investigator from IIT Bhubaneswar—were also present on the occasion.

IIT Bhubaneswar observes Constitution Day

IIT Bhubaneswar solemnly observed Constitution Day (Samvidhan Diwas) on 26th November 2025, marking the culmination of the year-long celebrations themed “Hamara Samvidhan, Hamara Swabhimaan.” The Institute community gathered for the formal reading of the Preamble in the Administrative Building foyer in the presence of Shri Bamadev Acharya, Registrar, followed by parallel readings across all Schools and Departments.

First-Ever Global Dharma Studies Conference to Advance Interdisciplinary Research

IIT Bhubaneswar hosted the three-day First Annual Dharma Studies Conference (DSC 2025) from 5th to 7th December 2025, strengthening efforts to institutionalise Dharma Studies as a research-driven, interdisciplinary field. Organised in collaboration with leading academic and research institutions, the conference brought together national and international scholars to discuss the contemporary interpretations and societal relevance of Dharma. The inaugural ceremony featured Shri Gauranga Das as Chief Guest and was presided over by Prof. Shreepad Karmalkar, Director, IIT Bhubaneswar. Convener Dr. Akshaya K. Rath underscored the need for a dedicated platform for multidisciplinary and intercultural Dharma Studies.

In his insightful address, Shri Gauranga Das said: “The world today is confronting psychological stress, environmental imbalance, and social fragmentation at an unprecedented scale, and Dharma offers a framework to restore harmony. The Bhagavad Gita reminds us of three timeless principles—stability in identity, purity in intention, and intensity in action. If we apply these consciously, they can guide individuals and institutions toward responsible, sustainable, and value-based progress. This conference is not just timely—it can influence how the world reimagines ethics, leadership, and wellbeing.”

Prof. Karmalkar said: “Dharma is one of India’s most profound and non-translatable ideas. The term "dharma" is not accurately conveyed by the English word "religion," a distinction evident in the numerous compound expressions found within Indian languages. Phrases like sanatana dharma, varnashrama dharma, swa-dharma, apad dharma, yuga dharma and others lose all coherent meaning if "dharma" is rigidly translated as "religion" in a two-word English equivalent. The concept is far broader and context-dependent than "religion" can accommodate. Hence, Dharma deserves rigorous academic attention beyond a simplified interpretation as religion. By hosting this conference, IIT Bhubaneswar hopes to strengthen scholarly engagement with Dharma as a civilizational framework and inspire future research that connects language, culture, and knowledge systems with contemporary inquiry.”

As a leading technology institution, IIT Bhubaneswar sees this dialogue as a crucial bridge between ethics and innovation, especially as emerging technologies reshape human identity, intentions, and societal values. Convenor Dr. Naresh Chandra Sahu proposed a vote of thanks at the conclusion of the inaugural session. He also announced the institution of two jury awards this year: the AC Bhaktivedanta Swami Prabhupad Award, instituted by the Bhaktivedanta Research Centre, and the Whabiz Merchant Best Essay Prize, instituted by Prof. Hoshang Merchant.

After the inauguration, the conference opened with a keynote by Prof. Pankaj Jain of FLAME University on “Revisiting Dharma in the 21st Century.” Day 1 included plenary sessions and panels on sustainability, literature, social justice, identity, AI, and indigenous knowledge, featuring leading national and international scholars. Across three days, DSC 2025 hosted over 100 presentations, keynotes, and thematic panels, making it one of the largest recent academic forums on Dharma Studies. Day 2 featured keynotes by Prof. Ferdinando Sardella and Prof. Graham M. Schweig, followed by a networking dinner. The final day included a keynote by Shrivatsa Goswami, a workshop session, and the valedictory ceremony addressed by Prof. N. Nagaraju, Vice Chancellor, EFLU. The diverse participation underscored the growing academic momentum around Dharma as a contemporary ethical, ecological, and philosophical framework.

IIT Bhubaneswar and Survey of India Join Hands to Advance Geospatial Research and Innovation

IIT Bhubaneswar and the Odisha & Chhattisgarh Geo-Spatial Directorate of the Survey of India (SoI) signed a Memorandum of Understanding (MoU) on 25th November 2025 to strengthen collaboration in the areas of Geodesy, Geo-informatics, mapping technologies, and geospatial research. The MoU was signed by Prof. Dinakar Pasla, Dean (Sponsored Research & Industrial Consultancy) of IIT Bhubaneswar, and Shri Asish Kausal, IES, Director of Odisha and Chhattisgarh Geo-Spatial Directorate, Survey of India, in the presence of Dr. Raj K. Singh, Head, SEOCS, Dr. Ashim Sattar, Assistant. Professor, SEOCS, Shri Bharat Kumbhar, Superintending Surveyor, SoI and Shri Shakil Alam, Officer Surveyor, SoI.

The partnership aims to combine the Survey of India's technical expertise in geospatial science with IIT Bhubaneswar's research strength in remote sensing applications, geo-dynamical studies, climate science, and earth sciences. Through this MoU, both institutions will work together to facilitate the exchange of scientific and technical information, enhance research capabilities, and drive innovation in emerging geospatial technologies. As part of the agreement, IIT Bhubaneswar and the Survey of India will undertake joint research projects, promote knowledge sharing, and host collaborative workshops, lectures, and conferences to advance capacity-building and scientific understanding in the field of geospatial technologies.

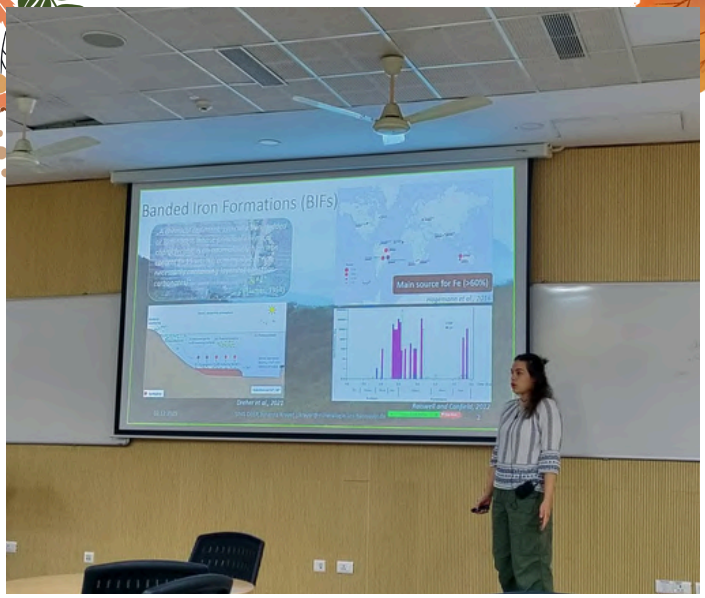
IIT Bhubaneswar Hosts Strategic Meeting on Deep Drilling Proposal for Singhbhum Craton under ICDP

Indian Institute of Technology (IIT) Bhubaneswar convened a high-level scientific meeting on 1st and 2nd December 2025 to discuss the formulation of a proposal for deep drilling of the Singhbhum Craton in Odisha under the International Continental Scientific Drilling Program (ICDP). The two-day hybrid event brought together leading academicians, scientists and researchers from premier national and international institutions.

The proposal is being led by Dr. Jaganmoy Jodder from the University of Oslo, Norway, along with Prof. Axel Hofmann of the University of Johannesburg, South Africa. IIT Bhubaneswar's School of Earth, Ocean, and Climate Sciences (SEOCS) is serving as the local host and a key collaborating partner in the initiative.

The meeting commenced with welcome remarks from Prof. C.N. Bhende, Dean (Postgraduate and Research Program), IIT Bhubaneswar. Dr. Jodder and Prof. Hofmann outlined the scientific vision, scope, and expected outcomes of the proposed drilling project.

Renowned international experts, representing the University of Johannesburg, University of Göttingen, University of Hannover, Ruhr Bochum University, Tokyo Institute of Technology, and Kyushu University participated in the deliberations. National experts from IIT Kharagpur, IISER Berhampur, IISER Kolkata, NISER Bhubaneswar, University of Pune, and other organisations also contributed to the discussions



Representatives from the Ministry of Mines, Ministry of Earth Sciences, Borehole Geophysical Research Laboratory (BGRL), Tata Steel, and Manmohan Mineral Industries Pvt. Ltd. were present, highlighting strong institutional and industry engagement.

Over the course of the discussions, participants reviewed existing research, geological data, resource potential and current knowledge gaps of the Singhbhum Craton region. The meeting culminated in the finalisation of broad scientific objectives to strengthen the ICDP proposal.

Following the deliberations, a delegation from the meeting met the Chief Secretary of Odisha, presented an overview of the initiative, and sought the support of the State Government for the proposed international scientific effort.The deep drilling initiative is expected to significantly advance geological understanding of one of the world's oldest continental fragments and unlock new scientific, mineralogical and resource insights of global relevance.

IIT Bhubaneswar Develops Sensor-Based Ghat Road Warning System

IIT Bhubaneswar has successfully developed and deployed an innovative sensor-based Ghat Road Warning System at Kalinga Ghat in Kandhamal to improve road safety in one of Odisha's most accident-prone and low-visibility travel routes.

The project has been executed under a consultancy initiative funded by the State Transport Authority (STA), Odisha, and aims to reduce collision risks on sharp bends, blind curves, and fog-affected stretches.

The system was designed by a research team led by Prof. P.K. Sahu (Principal Investigator) and Dr. Debalina Ghosh (Co-Principal Investigator) from the School of Electrical & Computer Sciences, IIT Bhubaneswar.

The deployed setup consists of two roadside units (RSUs) that communicate using LoRa-based wireless technology, enabling real-time warnings to approaching vehicles. The system integrates Time-of-Flight (ToF) sensors capable of detecting vehicles with high accuracy up to ~20 meters, triggering sirens to alert traffic from the opposite direction.

Powered by a solar-based energy system and built with commercial off-the-shelf components, the solution is scalable, low-maintenance, and suited for remote terrains where conventional power and communication infrastructure are limited. Field testing at the site has confirmed effective performance, marking a significant step toward smart transport safety solutions tailored to regional needs. With increasing vehicular movement in Odisha's hilly regions, the technology is expected to support safer mobility and reduce road accidents.

Release of Hindi Half Yearly Magazine

The Hindi Half-Yearly Magazine of the Institute 'Parvartan' has been released on 2nd December 2025. Prof. Shreepad Karmalkar, Director, released the magazine in presence of Shri Bamadev Acharya, Registrar; Dr. Avijit Kumar, Professor-in-Charge, Raj Bhasha; members of the Official Language Implementation Committee of the Institute, and faculty members and staff. The event marked an important step in promoting Hindi language initiatives and encouraging creative expression within the Institute.

IIT Bhubaneswar Secures Second Position at the XIX International Ethics Olympiad.

IIT Bhubaneswar secured the Second Position at the XIX International Ethics Olympiad held on 31st October 2025. The event was organized by the Department of Philosophy and Social Sciences of the Reshetnev University, Krasnoyarsk, Russia. The team members include Himanshu Dubey (SBS, ITEP Physics); Arya Bhardwaj (SHSSM, ITEP Economics) and Akshita Gaur (SBS, ITEP Chemistry). The team was mentored by Dr. Sreetama Misra and two research scholars Ms. Payel Basak and Ms. Aarti Dixit from the School of Humanities, Social Sciences and Management. The Institute congratulates all team members for their dedication and for representing IIT Bhubaneswar with distinction on a global platform. The awards were announced in the month of November 2025.

IIT Bhubaneswar Hosts Send-Off Ceremony for Inter-IIT Sports Contingent

IIT Bhubaneswar organized a formal send-off ceremony on 10th December 2025 for its contingents participating in the upcoming Inter-IIT Sports Meet at IIT Hyderabad–Madras–Tirupati. The contingent includes 122 students, 72 staff and faculty members, and 8 coaches, representing the Institute across multiple sporting disciplines.

A combined march-past by the student and staff contingents set an enthusiastic tone for the evening. Dr. Kodanda Ram Mangipudi, President of the Students' Gymkhana and Dr. Bankim Chandra Mandal, Faculty Advisor, Sports & Games presented a brief information about the contingents and shared the expectations of the Institute from the participants. Prof. Shreepad Karmalkar, Director motivated the athletes with a pep talk, urging them to perform with dedication and excellence. Prof. Rajesh Roshan Dash, Dean (Student Affairs), also spoke on the occasion and encouraged the students. Shri Bamadev Acharya, Registrar was also present on this occasion and motivated the participants. The highlight of the event was a friendly volleyball match, in which Director and Registrar both participated and encouraged the contingents.

Art for a Greener Tomorrow – Drawing Competition & Awareness Programme

Project CARE (Campus Action for Reusable Essentials), an initiative of the IIT Bhubaneswar Research and Entrepreneurship Park in collaboration with the Saukhyam Foundation, organized a drawing competition titled “Art for a Greener Tomorrow.” The event was held on 23rd November 2025 at the Community Centre, with two participation categories: Junior and Senior (Class VI–XII).

The objective of the competition was to foster creativity among young minds while promoting awareness about sustainability, zero-waste practices, and the use of reusable essentials. Students were encouraged to depict their vision of a cleaner, greener, and more mindful future through their artwork.

A total of 14 enthusiastic participants from the IIT Bhubaneswar fraternity, representing various schools including Doon International School, KV IIT Bhubaneswar, and Cohen International School, took part in the event.

To recognize and celebrate their efforts, a Prize Distribution Ceremony followed by a brief Awareness Programme on Project CARE was organized on 6 December 2025. Prizes included environment-focused books such as Zero Waste, Plastic-Free World, and titles on the RRR (Reduce, Reuse, Recycle) theme, motivating children to adopt eco-friendly habits.

As part of the awareness session, parents and children were also introduced to reusable menstrual hygiene alternatives, reinforcing the importance of responsible choices for a sustainable lifestyle.

Photographer

IITBBS REP Partners in Odiapreneur, Odisha's Largest Hackathon to bring out the best in students

IIT Bhubaneswar Research & Entrepreneurship Park, in collaboration with the Directorate of Higher Secondary Education (DHSE), Government of Odisha, is organizing Odiapreneur, a state-level Hackathon designed to promote innovation and entrepreneurial thinking among higher secondary students. The initiative provides a platform for technology-driven solutions to real-world challenges and reinforces IIT Bhubaneswar's commitment to nurturing future-ready talent.

The launch event was attended by senior officials from DHSE, OAVS, UNICEF Odisha, and IIT Bhubaneswar. Scheduled for December 2025 and January 2026, the Hackathon expects participation from over 3,000 students and more than 900 ideas across Odisha, supported by UNICEF and industry mentors.

Registrations will span 30 districts and approximately 1,500 Higher Secondary Schools. After district-level Hackathons, the top three teams from each district will compete in the state-level finale at IIT Bhubaneswar, where the Research & Entrepreneurship Park will lead technological support and execution. Cash awards will be presented at both district and state levels.

The Smart Odisha Hackathon 3.0 will focus on themes including agriculture, healthcare, renewable energy, and waste management, addressing Odisha-specific and global challenges. Highlighting the initiative, Dr. Naresh Chandra Sahu, Associate Professor, IIT Bhubaneswar, emphasized the institute's enthusiasm in empowering young innovators.

Students can register at www.odiapreneur.in

‘Mio Amore’ Cake & Bakery inaugurated

The inauguration of the ‘Mio Amore’ Cake and Bakery Shop near Lalitgiri Hall of Learning was held on 25th November 2025. The shop was formally inaugurated by Prof. Shreepad Karmalkar, Director, IIT Bhubaneswar, in the presence of Prof. Umaprasana Ojha, Chairman, IMMC and Shri Bamadev Acharya, Registrar. The ceremony marked a warm beginning to this new addition to the campus, offering a delightful range of cakes and bakery items for the community. The event witnessed cheerful participation, and guests enjoyed the aroma, taste of the delicious foods, and ambience of the newly opened outlet.

Café Coffee Day Value Xpress Kiosk inaugurated

IIT Bhubaneswar inaugurated the new Café Coffee Day (CCD) Value Xpress kiosk at the Administrative Building premises on 11th December 2025. The kiosk was formally inaugurated by Prof. Shreepad Karmalkar, Director, in the presence of Prof. Umaprasana Ojha, Chairman, IMMC; Shri Bamadav Acharya, Registrar and other esteemed dignitaries of the Institute.

The inauguration ceremony witnessed enthusiastic participation from faculty members, staff, and students.

“বিশ্বাস সেই পাখি,
যে আলোর অনুভব করে
অন্ধকার ভোরেও গান গায়।”

"Faith is the bird that feels the light when the dawn is still dark..."

From the Poem ‘Kanika’
By Gurudev Rabindranath Tagore

Picture Credit: Ms. Jasleen Kaur