National Institute of Technical Teachers' Training and Research, Kolkata

Newsletter

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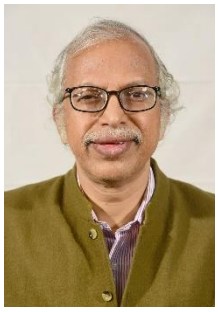
Message from Director



Namaskar. I am glad to inform you that I have completed my five-year journey as Director of this esteemed institution on 7th June 2025, I am filled with profound grat itude and reflection. Leading NITTTR Kolkata has been one of the most enriching and transformative experiences of my life journey that I will treasure forever. I extend my sincere thanks to each one of you covering students, faculty, staff members, and well.for your steadfast support, cooperation, collaboration, and trust. Together, we navigated challenges, celebrated achievements, and built a shared vision grounded in excellence, innovation, and integrity.

This institute is far more than a workplace-it is a vibrant, living community, driven by knowledge and united by purpose. The relationships and memories formed here will always remain close to my heart. They have not only shaped my professional growth but have also touched me personally in profound ways. As I move forward, I carry with me the pride of having been part of such a remarkable chapter in NITTTR Kolkata's legacy. I am confident that the institute will continue to thrive-pushing boundaries, inspiring minds, and making lasting contributions to society. Thank you, once again, for your unwavering dedication, resilience, and belief in our shared mission. It has been an honour to walk this path with you.

Prof. Debi Prasad Mishra
Director, NITTTR, Kolkata

ARTICLE

Sustainable Manufacturing in Additive Manufacturing: Balancing Efficiency and Environmental Impact

Prof. K Venkata Rao
Professor, Department of Technical Education & Management.

Introduction

Additive manufacturing (AM), often referred to as 3D printing, has revolutionized the production of complex metal components by enabling layer-by-layer deposition. For the fabrication of large-scale metal parts with high deposition rates and structural

integrity, AM based on gas metal arc (GMA) is particularly popular. However, sustainability is seriously hampered by AM methods' high energy consumption and environmental emissions [1]. The options for improving sustainability in AM are examined in this article, with an emphasis on process parameter optimisation to lower emissions and power usage while preserving material efficiency and dimensional accuracy. Key strategies for sustainable AM, including improved fabrication processes, finite element modelling (FEM), and process optimisation, are examined based on current research.

Strategies for Sustainable Additive Manufacturing

Energy consumption, material waste, and environmental implications including carbon monoxide (CO), carbon dioxide (CO2), and nitrogen oxide (NOx) emissions must all be minimised in AM for sustainable manufacturing. These emissions are associated to ozone depletion, acid rain, and air pollution due to the melting of metals at high temperatures [2]. Through direct metal deposition, GMA-based AM achieves material efficiency of 75–85%, which greatly reduces waste [3]. This gives it an advantage over traditional manufacturing. Though manufacturing energy use has risen since 2010, energy consumption is still a major concern, especially in developing nations.

Optimising process variables including current, torch angle, wire feed speed, and welding speed is one practical way to minimise power usage and obtain the appropriate weld bead geometry. To achieve the desired weld bead width and height while reducing power usage to 41%, for example, the Teaching-Learning Based Optimisation (TLBO) technique was used to determine the best operating conditions [1]. This method shows how exact process parameter management may improve energy efficiency and product quality.

For sustainable AM, finite element modelling (FEM) is yet another essential technique. Instead of using energy-intensive physical investigations, researchers can use FEM-based simulations to predict the mechanical characteristics, molten pool dynamics, and thermal behaviour of deposited materials [4,5]. Through the use of simulation software, producers can model the weld pool and examine how process parameters affect the geometry of the weld beads, maximising energy efficiency while maintaining dimensional accuracy.

Challenges and Future Directions

Despite its benefits, AM faces challenges such as molten pool instability at high wire feed rates, which can compromise layer formation and increase energy demands [6]. Furthermore, substantial emissions are caused by the high temperatures needed to melt metals like titanium and steel, which calls for sophisticated control techniques. Complex components can be fabricated with robot-based GMA welding, but careful path planning is necessary to reduce energy waste. The use of sophisticated optimisation techniques, such TLBO or response surface methodology, to further fine-tune process parameters is one of the future approaches for sustainable AM [1]. Furthermore, hybrid manufacturing strategies that blend additive manufacturing with subtractive methods may lower energy and material waste [7]. Environmental effects could be further reduced by research into eco-friendly shielding gases and low-energy AM methods [8]. Lastly, in order to measure and reduce the environmental impact from production to disposal, lifecycle assessments of AM processes are crucial.

Conclusion

Additive manufacturing holds immense potential for sustainable production by reducing material waste and enabling the fabrication of complex geometries. To achieve sustainability, however, process parameters must be carefully optimised to reduce emissions and energy use. Recent research have shown that methods like TLBO and FEM-based modelling provide workable answers for striking a balance between environmental effect and efficiency. AM has the potential to become a key component of sustainable manufacturing by tackling issues like unstable molten pools and high energy requirements, as well as by investigating creative fabrication and optimisation techniques.

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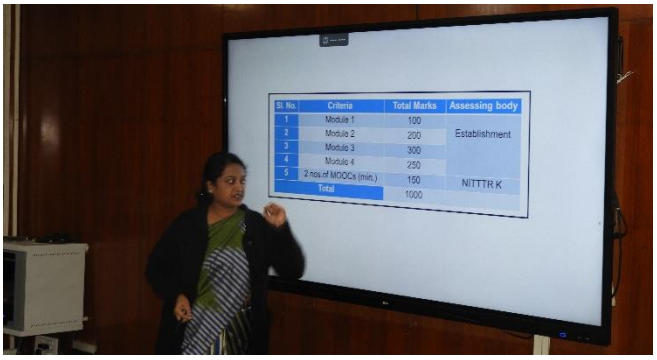
One-day workshop on 'Assessment mechanism for Apprenticeship Training'

One-day workshop on 'Assessment mechanism for Apprenticeship Training' was conducted at Board of Practical Training (ER) Kolkata on 3rd January 2025 for industries/ establishments related to NATS assessment project.

80 participants joined online and 20 participants in-person. The participants comprised of trainees and trainers from establishments, officers from BOPT (ER), IIT Kharagpur and technology partners from Kolkata.



Training in progress

Celebration of the Institute's Foundation Day – 2025

The Institute's Foundation Day was celebrated with great enthusiasm and fervor on Saturday, 11th January 2025, at the NSB Auditorium, NITTTR Kolkata. The event was organized under the leadership of Dr. Mithu Dey, with active participation from faculty members, staff, students, and esteemed guests.

The program commenced with a warm welcome address delivered by the Member Secretary of the Organizing Committee, followed by Saraswati Vandana and a presentation showcasing the achievements and activities of NITTTR Kolkata.

The event was graced by the presence of our Honourable Director, Prof. Debi Prasad Mishra, who addressed the gathering with insights into the Institute's ongoing initiatives and a visionary outlook on its future development.

Several significant activities marked the day's celebration, including:

- Inauguration of the Life Skills Laboratory
- Inauguration of the Controller of Examinations and Dean (RPD) Office
- Exhibition of the Institute's Research & Development initiatives
- Showcase of the Indian Knowledge System (IKS) Centre

The event concluded with a formal Vote of Thanks by Prof. S. K. Naskar, who expressed deep appreciation to all speakers, dignitaries, faculty, staff, and students for their active participation and contribution to the success of the celebration. Special gratitude was extended to Madam Mishra, whose gracious presence elevated the significance of the occasion.

The Foundation Day 2025 celebration reflected the Institute's legacy of academic excellence and its commitment to innovation and inclusive growth.

Soft Skill Laboratory

NITTTR, Kolkata has set up a "Soft Skill Laboratory" with the aim to develop competence in teachers for building adequate soft skill capability among passouts of the technical education system at both diploma / degree level. This would help in creating a learning zone for demonstrating effective content delivery along with a user friendly and flexible delivery interaction system for teaching-learning process.

In line with the tenets of NEP 2020, the facilities of the laboratory would also be accessible to undergraduate and post graduate students from professional/general

institutes of higher education, for improving their soft skills leading to greater opportunities of employability.

With further strengthening of the laboratory, incorporating state-of-the-art software tools, it is expected to produce more competent passouts matching the requirements of the world of work. Consequently, with the development of improved training packages, it would widen the scope of research to evaluate the parameters of soft skills for designing an effective delivery system as also offering collaborative programmes with lead institutes in the region.

The laboratory was inaugurated by the honourable Director, Prof. Debi Prasad Mishra on 11th January 2025.

Conference / Seminar:

National Seminar on Green Energy, Environment and Technology (NSGEET-2025)

The National Seminar on Green Energy, Environment and Technology (NSGEET-2025), held on 16th– 17th January 2025, was a landmark event organized by the Department of Electrical Engineering, NITTTR Kolkata, in collaboration with Star Cement Limited, Shillong. Convened by Prof. Gayadhar Panda, a leading expert in power electronics and green energy systems, the seminar brought together a distinguished gathering of academicians, researchers, industry professionals, and policymakers to drive forward the agenda of sustainable development.

The two-day seminar featured powerful keynote sessions by renowned speakers covering cutting-edge topics such as e-mobility and green energy integration, quantum computing and AI in clean energy, and decarbonization strategies. Expert-led panel discussions explored transformative innovations in renewable energy, smart grids, and sustainability policy frameworks tailored to developing nations.

A highlight of the event was the Young Professional Session, where emerging researchers presented forward-thinking solutions on solar-powered EV charging (V2G/G2V) and pre-commissioning platforms

for renewable farms. Over 30 high-quality technical papers were presented on key themes like high-gain DC-DC converters, microgrid control, MPPT algorithms, and AI-driven power distribution systems.

NSGEET-2025 stood out for its academic rigor, interdisciplinary engagement, and strong industry-academic collaboration, reaffirming the importance of innovation in achieving environmental sustainability. The event's success was a testament to the visionary leadership of Prof. Gayadhar Panda, whose guidance ensured an enriching and impactful experience for all participants.

Celebration of the Birth Anniversary of Netaji Subhas Chandra Bose

The National Institute of Technical Teachers' Training and Research (NITTTR), Kolkata, celebrated the birth anniversary of the revered freedom fighter, Netaji Subhas Chandra Bose, on 23rd January 2025, with great respect and enthusiasm. The celebration took place in front of the NSCB Auditorium and was attended by faculty members, staff, and students.

Program:

The event began at 03:00 PM with the In-charge Director of NITTTR, Kolkata, garlanding the statue of Netaji Subhas Chandra Bose located in front of the NSCB Auditorium. This gesture of reverence symbolized the institute's tribute to the great leader's legacy.At 03:05 PM, the gathering observed a one-minute silence in honour of Netaji. Following this, flowers were offered at his statue as a mark of respect and admiration for his unmatched contribution to India's struggle for independence. Dr. Deepak Mehra, Associate Professor at NITTTR, Kolkata, delivered the welcome address at 03:15 PM. He spoke about the significance of remembering Netaji Subhas Chandra Bose, whose leadership and unwavering patriotism continue to inspire generations. The ceremonial lighting of the lamp took place. This ritual symbolized the illumination of knowledge, hope, and the spreading of the values Netaji upheld.

The National Anthem was sung at 03:25 PM, with the entire gathering standing united, paying tribute to both the nation and the great leader, Netaji Subhas Chandra Bose. The dean of Research, Planning & Development and Dean, Faculty & Academic Affairs, delivered a thought-provoking address. They reflected on Netaji's contributions and the importance of

education and national service. Aitijhyo Kundu presented a patriotic song, stirring the audience with a sense of pride and patriotism and evoking the enduring spirit of Netaji's leadership. At 03:40 PM, Prof. Anil Kumar, Prof. Indrajit Saha, Mr. Abhishek, and Mr. Adarsh shared their reflections and tributes to Netaji Subhas Chandra Bose. Their heartfelt words emphasized the profound impact of his ideals on the youth of India. At last, Dr. Deepak Mehra, Associate Professor at NITTTR, Kolkata, extended a vote of thanks to all the attendees and speakers. He expressed gratitude for the collective efforts in making the event a success and emphasized the importance of honoring Netaji's memory. The event concluded with refreshments, providing an opportunity for the attendees to socialize and reflect on the inspiring program that honored the life and contributions of Netaji Subhas Chandra Bose.

Celebration of 76th Republic Day

The 76th Republic Day was observed on 26th January 2025. It began with the unfurling of the Indian Tricolour, followed by singing of National Anthem and offering flowers in memory of the brave soldiers who sacrificed their lives for the nation.

Thereafter, Honourable Director, Prof. Debi Prasad Mishra inaugurated the 'Adi Shankaracharya Bharatiya Knowledge System Museum' and also the office of the Dean, Faculty & Academic Affairs.

Director also addressed the gathering reiterating the contributions and sacrifice of the Shaheeds of our motherland. He encouraged the youth to imbibe their leadership qualities that are being cherished across the globe.

The event was attended by the members of faculty, staff, students, trainees and research scholars.

The programme was coordinated by Dr. Habiba Hussain, Associate Professor, Deptt. of Technical Education & Management and Shri Kallol Modak, Sr. Technical Assistant.

Honourable Director, Prof. Debi Prasad Mishra inaugurating the office of the Dean, Faculty & Academic Affairs

Inauguration of Adi Shankaracharya Exhibit

As part of the Republic Day celebrations, the Adi Shankaracharya Exhibit was inaugurated at the Bhartiya Knowledge System (BKS) Museum on 26th January 2025 at 9:15 AM by the Director of NITTTR Kolkata.

The exhibit is a tribute to Adi Shankaracharya, one of the greatest thinkers of India, whose philosophy of Advaita Vedanta represents the depth and rigor of ancient Indian thought. The display connects his teachings with contemporary educational paradigms, especially within the STEM and BKS frameworks.

This initiative is part of the Director's broader academic and cultural vision to integrate traditional Indian knowledge systems with modern science and education. Under his leadership, NITTTR Kolkata has seen significant work in Mathematics, Physics, Swastik symbolism, Temple Architecture, Ayurveda, Biological sciences, and interdisciplinary scientific thought, all grounded in the Bhartiya knowledge tradition.

In his inaugural address, the Director emphasized the importance of contextualizing India's intellectual heritage within modern STEM education to inspire critical thinking, innovation, and values-based learning. The museum and its exhibits reflect this integrated approach, promoting holistic understanding across disciplines.

The event marked a meaningful step in bridging ancient wisdom with modern academia, reinforcing NITTTR Kolkata's role as a center for knowledge rooted in India's civilizational strengths.

A Seminar on "Current Developments in Additive Manufacturing within the Aerospace Sector"

Under the patronage of the Director, Prof. Debi Prasad Mishra, a seminar for invited talk on "*Current Developments in Additive Manufacturing within the Aerospace Sector*" was organized on 27th January 2025 by the Department of Mechanical Engineering (M. E.), National Institute of Technical Teachers' Training and Research (NITTTR) Kolkata.

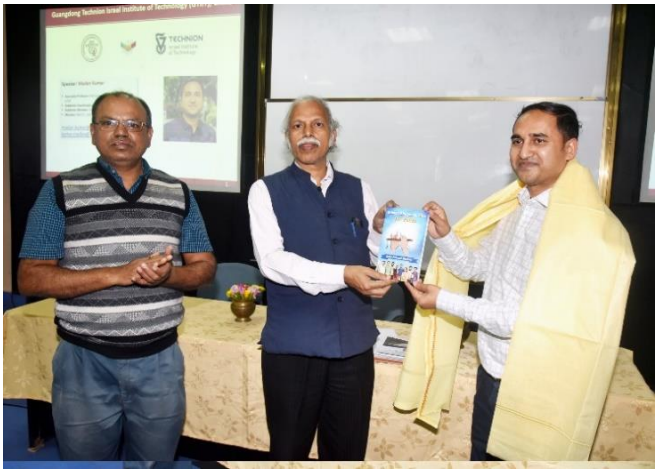
The seminar was coordinated by Dr. Subrata Mondal. Invited talk in the seminar was delivered by Dr. Anand Prakash Dwivedi, Manager: Design Center, Guangdong Technion: Israel Institute of Technology, Shantou, China. Dr. Dwivedi holds a B. Tech. in Mechanical Engineering from the Uttar Pradesh Technical University (SITM), Lucknow, India, M.Tech in Production & Industrial Engineering (Gold Medallist) from the Integral University, Lucknow, India, and a Ph.D. in Mechanical Engineering from the Indian Institute of Technology Kanpur (IIT K), Kanpur, India.

The programme started at 11:00 A.M. in theSri Ramakrishna Paramhansa Mini Auditorium, NITTTR Kolkata. Prof. Mishra, the Director, NITTTR Kolkata and Dr. Mondal, Head, Department of Mechanical Engineering, NITTTR Kolkata welcomed the guest with uttorio and memento. In the seminar, Dr. Dwivedi has discussed on additive manufacturing advantages which provides unparalleled versatility regarding part design, material selection, and production timelines. His discussion was focused on additive manufacturing in the aerospace industry. Additive manufacturing is poised to transform the aerospace manufacturing industry by enabling the creation of intricate, lightweight components while minimizing material waste. Additionally, this technology can be utilized for the repair of sophisticated parts, including engine blades and combustion chambers. Further, he has discussed the challenges associated with machining complex geometries and thin-walled structures in aircraft engines which are significant factors driving the aerospace sector to embrace additive manufacturing. The seminar was attended by faculty, staff members and students of NITTTR Kolkata and the event was successfully organized with valuable contribution by Dr. Rayapati Subbarao, Associate Professor, Dept. of M. E., NITTTR Kolkata.

A Seminar on "IC Engine Phase-out for Carbon Neutrality"

Under the patronage of the Director, Prof. Debi Prasad Mishra, a seminar for invited talk on "IC Engine Phase-out for Carbon Neutrality" was organized on 07th February 2025 by the Department of Mechanical Engineering (M. E.), National Institute of Technical Teachers' Training and Research (NITTTR) Kolkata. Coordinator of the seminar was Dr. Subrata Mondal. Invited talk was delivered by Dr. Madan Kumar, Associate Professor, Mechanical Engineer: Robotics, Guangdong Technion: Israel Institute of Technology, Shantou, China. Dr. Kumar holds a B. Sc. Eng. in Mechanical Engineering (with distinction) from Magadh University (India), a Master of Science (M.S.) by research in Mechanical Engineering (Thermal) from the Indian Institute of Technology Madras (IIT Madras-India), and a Ph.D. in applied science and engineering from Sophia University (Japan). The programme started at 4:30 P.M. in the Sri Ramakrishna

Paramhansa Mini Auditorium, NITTTR Kolkata. Prof. Mishra, the Director, NITTTR Kolkata and Dr. Subrata Mondal, Head, Department of Mechanical Engineering, NITTTR Kolkata welcomed the guest with uttorio and memento. Dr. Kumar has discussed climate change issues and target to achieve zero carbon emissions in the next few decades. A recent significant trend in shifting to new energy solutions such as battery electric vehicles (BEVs) and fuel cells have been also discussed. He addressed challenges such as raw materials demand, infrastructure development, supply chain, etc. for fuel cell and electrification. Furthermore, he discussed upon reinvestigation of IC engine with alternative fuels such as hydrogen/ammonia/biodiesel/methanol/e-fuels etc., and that carbon neutrality can be achieved without compromising the power generation/millage with existing infrastructure and supply chain of energy fuels with minor retrofitting process. This can certainly save a lot of money and time for respective countries along with decarbonization goal achievement. In view of mentioned gaps and challenges, the presentation was explored with the potential drawbacks of IC engines and examining alternative solutions for a more practical approach along with advanced technology development to eliminate IC engine sustainability threat. The seminar was attended by faculty, staff members and students of NITTTR Kolkata and the event was successfully organized with valuable contributions by Dr. Rayapati Subbarao, Associate Professor, Dept. of M. E., NITTTR Kolkata.



Report of the Workshop cum Interaction with Directors of Technical Education and Vice Chancellors

A workshop cum interaction with Directors of Technical Education and Vice Chancellors of different States was held on 13.02.2025 through CT mode at NITTTR-Kolkata.

Dr. S.K.Naskar initiated the said programme and the honorable Dean, Faculty and Academic Affairs, Prof. Gayadhar Panda, briefed purpose of the workshop.

Professor Debi Prasad Mishra, honorable Director of NITTTR-Kolkata welcomed all the delegates. At the outset, he announced the status of NITTTR-Kolkata as Deemed to be University after that he highlighted the various activates and facilities of NITTTR-Kolkata.

Some of them are as follows:

E-STTP, AR-VR Lab, M.Tech and Ph.D (regular and modular), Creditization of STTPs, programme on IKS, Student's Internship programme, Academic -Industry-Interaction etc.

He urged to work collaborately for utilizing the resources for different institutes / universities. Apart from the training NITTTR-Kolkata can also provide appropriate support for developing ERP, Centre of Excellence, for NBA, NAAC accreditation etc. as per demand.

From the feedback from the participants following points were noted:

- Providing lab facilities for the students
- Offering e-STTPS
- PG Diploma both regular and modular
- Executive programme (during night)
- Fully industry oriented curriculum

- STTP on quantum Computing
- Upskilling of faculty for NEP 2020 implementation
- Induction training (both phase I & II for two weeks duration)
- Collaboration with DTE as mentioned by the representatives of Nagaland
- Entrepreneurship support programme for developing entrepreneurship skill
- Latest teaching methodology
- Collaborative Academic Research
- Sustainable issues and Green Manufacturing

Finally the workshop interaction ended with a thanks by the honorable Director of NITTTR Kolkata

Nature-Centric Solutions for Viksit Bharat

A one-day workshop on Nature-Centric Solutions for Vikshit Bharat was organized on 22nd March 2025 at NITTTR Kolkata. The event aimed to explore sustainable, eco-friendly approaches to development aligned with Indias vision of becoming a developed nation.

The program began with registration and welcome tea at 10:00 AM, followed by the opening ceremony. Dr. Deepak Mehra welcomed participants and introduced the theme, emphasizing the importance of integrating nature-centric thinking into policy and practice.

The Director of NITTTR Kolkata delivered the keynote address on the Role of Nature-Centric Solutions in Sustainable Development, highlighting the need for nature-aligned innovation in infrastructure, energy, and education.

Two technical sessions featured research paper presentations by students, academicians, and professionals. Participants shared case studies and innovative practices supporting sustainable growth. The sessions were interactive and encouraged knowledge exchange. Dr. Deepak Mehra delivered the closing remarks, summarizing the key discussions and expressing gratitude to all contributors.

The event was well-received and contributed meaningfully to the ongoing dialogue on sustainable development in India, reinforcing the need for nature-centric approaches in

Faculty Development Program for Government Polytechnic Bramhapuri, Maharashtra

National Institute of Technical Teachers' Training and Research, organized its first Faculty Development Program (FDP) in Maharashtra. This program, held at the Government Polytechnic Bramhapuri, Maharashtra, aimed at enhancing the skills and knowledge of faculty members.

The FDP, held from 07-11 April 2025, witnessed participation from more than 35 faculty members hailing from Government Polytechnic Bramhapuri, Government Polytechnic Nagpur, Government Polytechnic Gadchiroli, PCE, Nagpur and G.P. Gondia.

Prof. Naveen BP was the resource person and programme coordinator. The FDP delved into topics such as Waste to Energy: A Sustainable Approach, landfill design, leachate treatment, landfill reclamation and waste management policy.

In additional, to gain a practical understanding of "waste to wealth", Prof. Naveen BP arranged a site visit at Ramdevbaba Solvent Limited. The visit focused on the rice bran oil process, transforming a rice processing byproduct (bran) into valuable oil and other products. This process showcases a "waste to wealth" approach, with the bran being used for oil extraction and the byproducts utilized for animal feed or as functional food ingredients.

Faculty Development Program for Government Polytechnic Seithekema, Nagaland

National Institute of Technical Teachers' Training and Research, organized a Faculty Development Program (FDP) at the Government Polytechnic Seithekema, Nagaland aimed equipping faculty members with the latest technological advancements to enhance their teaching methodologies and improve the learning experience for students, according to an update.

The FDP, held from March 24 to the 28th, witnessed participation from 25 faculty members hailing from Government Polytechnic Seithekema C, Chümoukedima, and Government Polytechnic Peren. The programme covered a wide array of Information and Communication Technology (ICT) tools and the emerging field of Artificial Intelligence (AI) and their applications within the educational landscape.

Prof. Naveen BP, was the resource person and programme coordinator. The FDP delved into topics such as ICT tools in education, AI in waste management, research paper and technical paper writing, among others.

At the valedictory ceremony, Dr. Naveen encouraged the participants to implement the newly acquired knowledge and skills in their classrooms to foster a more engaging and effective learning environment for their students.

Zhapulhoulie Rupreo, the principal of Government Polytechnic Seithekema C, expressed his gratitude to NITTTR Kolkata under the leadership of Prof. Debi Prasad Mishra, Director, NITTTR Kolkata, for their collaboration.

Prof. Naveen B.P research article "Toward Sustainable Infrastructure: Advanced Hazard Prediction and Geotechnical Risk Management in the Jiroft Dam

Project, Iran" was selected for the "International Forensic Scientist Award."

1st International Conference on Energy, Environment, and Green Technology (ICEEGT-2025)

The 1st International Conference on Energy, Environment, and Green Technology (ICEEGT-2025) was organized by the Department of Electrical Engineering, NITTTR Kolkata and successfully held on 3rd–4th April 2025 in physical mode. Under the visionary leadership of Prof. Gayadhar Panda as the Organizing Chair, this global event brought together leading academicians, researchers, industry professionals, and policymakers to address critical challenges and innovations in sustainable technologies.

The conference opened with a series of inspiring keynote sessions by distinguished speakers, including Prof. Debi Prasad Mishra (NITTTR Kolkata), Prof. C.K. Chanda (IIEST Shibpur), and Prof. Debashis Chatterjee (Jadavpur University), who covered transformative topics like green energy and e-mobility, AI in power systems, and wind power grid integration. These sessions offered strategic insights into the future of clean and intelligent energy systems.

ICEEGT-2025 featured two expert-led panel discussions on *"Sustainable Energy Innovations: Driving the Future of Clean Power"* and *"Sustainable Energy Transitions: Balancing Development and Environmental Responsibility."* These forums engaged thought leaders in dialogue on integrating technology, policy, and society for a sustainable global energy framework.

The conference showcased over 80 high-quality technical papers across five thematic tracks, including Sustainable Energy Systems, Smart Grids, Electric Vehicles & Energy Storage, AI & Cyber-Physical Systems, and Advanced Power Electronics. Research presented addressed challenges in grid resilience, MPPT control, electric mobility, machine learning applications, and high-gain power conversion.

Cultural Exchange Program

Under the esteemed guidance of the Honourable Director, NITTTR Kolkata, a vibrant cultural exchange program was successfully organized on April 8, 2025, between Ravenshaw University, Cuttack, Odisha, and the National Institute of Technical Teachers' Training and Research (NITTTR), Kolkata.

The primary objective of this event was to foster mutual understanding and appreciation of Odisha's and West Bengal's rich cultural heritages. By providing a shared platform, the program aimed to bridge cultural gaps and celebrate the artistic diversity of the two regions.

A total of 100 students from both institutions enthusiastically participated in the event. The program featured captivating performances, including the graceful Odissi dance and the energetic Sambalpuri folk dance, both representing the traditional art forms of Odisha. Additionally, students from West Bengal showcased their talents through soulful solo and duet Bengali songs, further enriching the cultural experience.

This exchange encouraged artistic expression and strengthened the bond of unity and respect between students of different cultural backgrounds.

Report of the birthday celebration of Dr. B.R. Ambedkar

Like every year, this year on 14th April, 2025 the institute celebrated 135th birth anniversary of Dr.B. R.Ambedkar in Sri Ramakrishna Paramahansa Auditorium of NITTTR-Kolkata.

The programme was initiated by Prof. S.K.Naskar, where he mentioned about the significant contributions of Bharat Ratna awardee Dr. B.R. Ambedkar. After that Prof. Niladri Pratap Maity, Director In-charge and Controller of Examination delivered a brief lecture about Dr. B.R. Ambedkar, he also urged the students to follow the philosophy.

Few students were also invited to speak about Amberkar Jayani and its significance. Sri Arnab Mitra, Sri Rahul Deo Barman, Sri Supria Saha and Subhadip Pahari told about few notable contributions of Dr.R. Ambedkar including some unknown facts about him in an elaborate manner.

Mr. Abijit Kundu of NITTTR-Kolkata also highlighted some contributions of Dr. B.R.Ambedkar

Dr. Rayapati Subbarao mentioned implementations of few thoughts into actions, which was suggested by Dr. B.R. Ambedkar more than 100 years back.

Finally, the programme ended with a vote of thanks by Prof. S.K.Naskar

Sanskrit Speaking Classes on Campus

Sanskrit, recognized as a foundational language of Indian culture and philosophy, provides access to a vast repository of ancient knowledge while also fostering cognitive development and enhancing linguistic skills. In alignment with these values and with the approval of the competent authority, Sanskrit Speaking Classes were organized on campus from 21st to 25th April 2025. The sessions were held in the Mini Auditorium during the evening hours from 5:30 PM to 7:00 PM. The classes witnessed enthusiastic participation, with approximately 30 faculty members, staff, and students confirming their attendance. The sessions were conducted by Shree Hanumantha Raju ji, who guided participants through the fundamentals of spoken Sanskrit with clarity and engagement. The classes were co-ordinated by Dr. Kunwar Raghvendra Singh, whose efforts ensured the smooth organization and execution of the event.

The program concluded on 25th April 2025 with the **"**Sanskrit Shivir Samapti Anushthan**"**. The event was graced by Shrimati Tapasi Mandal ji as the Chief Guest, who delivered an insightful talk on the significance and relevance of the Sanskrit language in contemporary times. In a special moment, the Honorable Director Sir recited his first Sanskrit poem, showcasing the inclusive and inspiring nature of the initiative. Additionally, Subhadip and Madhubanti, first-year M.Tech students, performed the Kulgeet of the university, adding a musical and cultural dimension to the closing ceremony.

The Sanskrit Speaking Classes successfully fostered appreciation and enthusiasm for the language among participants and reflected the institution's ongoing commitment to preserving and promoting India's rich cultural heritage.

Academia Industry Conclave-2025

The National Institute of Technical Teachers' Training and Research (NITTTR), Kolkata, hosted an "Academia Industry Conclave-2025" in association with PCPS Girls' Polytechnic, Bamunimaidam, Guwahati, Assam, from February 20 & 21, 2025, at NITTTR Kolkata extension centre, Guwahati.

The Academia Industry Conclave-2025 is not just a gathering but a unique opportunity for experts from the academic and industrial fraternity to come together, discuss, collaborate, and explore new avenues in research, development, and innovation. This platform for mutual learning, idea exchange, and the development of synergies is a rare chance to benefit all stakeholders of the Technical Education System of the Northeast Region.

In the inaugural function of this conclave on the first day, Prof. Ramesh, Vice Chancellor, Cotton University, attended as the Chief Guest. Prof. R.P Das, Vice Chancellor, KKHSOU, attended as the Guest of Honour. The Director of NITTTR, Kolkata, Prof. Debi Prasad Mishra, Prof. Naveen B.P. & Dr. Dr. Nazrul Haque were present on this occasion. The event started with the National Anthem, Ganesha Vandana, and Saraswati Vandana, followed by the Lighting of a Lamp by the chief guest and esteemed dignitaries.

The workshop coordinator, Prof. Naveen B.P., warmly welcomed the participants and emphasized the importance of Academia Industry Conclave-2025.

Prof. Ramesh, Vice Chancellor, Cotton University & Prof. R.P Das, Vice Chancellor, KKHSOU highlighted the workshop's goal of making Academia Industry Conclave-2025 to a broader audience.

The program started with the welcome Address by Prof. Debi Prasad Mishra, Director of NITTTR, Kolkata. He highlighted that the Conclave is to bring together experts from the industry to discuss prime issues concerning industry and academia based on current societal requirements.

After the inauguration, the keynote address was delivered by esteemed speaker, Prof. G.D. Sharma, Vice Chancellor, USTM. In addition, two-panel discussions were organized by various industrial and academic experts. During the Valedictory Session Sri Dhrubajyoti Borah, ACS, Director of Technical Education, Assam attended as the Chief Guest & Dr. Indrani Gogoi, Joint Director, Director of Technical Education, Assam attended as the Guest of honour. Besides these, Model and Poster-making competitions were organized. This information was also broadcasted through newspapers and other media.

Participants Registration for a Model/ Poster

Memorandum of Understanding (MOU) was signed between the NITTTR Kolkata and Dr. Fixit Institute for jointly setting up India's first Centre of Excellence in Waterproofing Training and Research at NITTTR Kolkata.

A significant milestone was marked on 23rd April, 2025 as National Institute of Technical Teachers' Training & Research, Kolkata, and Dr. Fixit Institute, embarked on signing a Memorandum of Understanding (MOU) for jointly setting up the Centre of Excellence in

Waterproofing Training and Research at NITTTR Kolkata.

A Centre of Excellence aims to advance and innovate in waterproofing through cutting-edge research, often involving collaboration with industry and academia. These centres foster interdisciplinary research, promote innovation, and develop new technologies in the field.

Memorandum of Understanding (MOU) – Signing

The MOU was signed by Prof. Debi Prasad Mishra, Director of NITTTR, Kolkata, and Mr. Mehul Kirti Parikh, President, DFI, along with senior dignitaries (DFAA, Dean (RP&D) and CoE), all Heads of Departments (HoDs) and civil engineering faculties from NITTTR Kolkata, and DFI staff.

Signing of Memorandum of Understanding (MOU)

This collaboration is a significant step toward advancing waterproofing in India. It aims to provide high-performance waterproofing solutions for challenging sites, like those with temperature variations and high-water tables, according to Indian Cement Review. This collaboration can help improve the quality and reliability of waterproofing in Indian construction projects. Centre of Excellence is envisioned as a world-class knowledge hub designed to promote research and innovation in waterproofing, maintenance, and repair of concrete structures. The centre aims to improve waterproofing and repair practices to align with sustainable development goals. This effort likely focuses on reducing environmental impact, extending the lifespan of infrastructure, and optimizing resource use, which can contribute to achieving specific SDGs like those related to clean water and sanitation

The signing event was brief yet impactful, highlighting the shared vision and potential for synergy between DFI and NITTTR. Prof. Debi Prasad Mishra and Mr. Mehul Kirti Parikh discussed the strategic commitments envisioned for the upcoming year, emphasizing the mutual benefits and opportunities this partnership will bring. The deliberations further underscored the importance of collaboration in waterproofing, maintenance, and repair of concrete structures.

In conclusion, the event highlighted the mutual commitment of NITTTR, Kolkata, and DFI to working together to achieve common goals. We are optimistic about the opportunities this collaboration will bring and look forward to the successful implementation of initiatives arising from this partnership.

Prof Debi Prasad Mishra and Mr. Mehul Kirti Parikh exchanging the MoU documents

The entire process was coordinated by Prof. Naveen B.P., ensuring a seamless and successful agreement between the two institutions.

Turnitin Originality Check Instructor Training Programme

On March 20th, 2025, the Nalanda Central Library of the institute hosted a Turnitin Originality Check Instructor Training Programme for all faculty members. The session took place at 4:30 PM in the Board Room of the Director's Secretariat, Chanakya Bhavan.

The training was coordinated and moderated by Dr. Shivakumar T. C., the Librarian of the institute's Nalanda Central Library. Ms. Ashita Khandelwal, a representative from Turnitin, served as the resource person for the event. The programme covered several key topics, including the following:

- Evaluate the AI Writing Report to determine appropriate use of generative-AI tools
- Interpret the Similarity Report, and understand the difference between text similarity and plagiarism
- Discuss how students can use the Similarity Report to help identify and address referencing issues in their work
- Create a Turnitin assignment
- Access Help and Support resources

Below are some photographs capturing the highlights of the programme.

Inauguration of Automated Library and e-Learning Resource Centre

On February 26th, 2025, the Honourable Director of NITTTR Kolkata inaugurated the Automated Library and e-Learning Resource Centre within the institute's Central Library. As part of this significant event, the Director also launched two innovative library portals- WEB-OPAC and DSpace Institutional Digital Repository- designed to enhance accessibility and research capabilities for the academic community.

Furthermore, as proposed and requested by the Library Advisory Committee, the Honourable Director also officially named the Central Library as "Nalanda Central Library", drawing inspiration from the historic Nalanda University, a global symbol of knowledge, scholarship, and intellectual pursuit. This renaming underscores the institute's commitment to academic excellence and the preservation of intellectual heritage.

The inauguration ceremony took place at Central Library and launch programme took place at Sri Ramakrishna Paramahansa Mini Auditorium, IIIrd Floor, Sarvepalli Radhakrishnan Bhavan, NITTTR Kolkata. The event was graced by the presence of esteemed faculty members, staff, research scholars, and students, who gathered to witness this transformative milestone in the institute's academic infrastructure.

Invited Talk

- Prof. Naveen B.P. delivered a talk on "Pile Termination Criteria for Rock Socketed Piles in Metro Project" Organized by the Department of Civil Engineering, M S Ramaiah Institute of Technology, IGS Student Chapter in association with Indian Geotechnical Society, Bangalore, on 6th January 2025.
- Prof. Naveen B.P. delivered a talk on "Environmental and Geotechnical Aspects of Landfill Reclamation: A Case Study of an Old Municipal Solid Waste Landfill In India" Organized by the Department of Civil Engineering, B.M.S. College of Engineering, Bangalore on 9th January 2025
- Dr. K. Giri delivered a lecture on "Error Analysis in Research", One Day Seminar on Research Methodology, April 12, 2025, Asutosh College, Kolkata, India
- Dr. K. Giri delivered a lecture on "Open Educational Resources (OER), Technical Skills and Digital Library, Online Learning and Teaching", One-Day Faculty Training Program on MOOCs, SWAYAM, & OER, April 26, 2025, Srikrishna College, Bagula, Nadia, India

Faculty Development Programmes (FDPs)

Teachers' Training during the period of January-April 2025: 1343 numbers of Technical Teachers have been trained, through various Short-Term Training Programmes, broadly in the areas of Content Updating, Management, Pedagogy and Professional Skill Development. A total of 82 training programs were conducted for the Teachers and Technicians of different Polytechnic colleges and Engineering colleges all over the Country during the 1st Quarter of the Year 2025.

List of Training Programmes (January-April, 2025)

Sl. No.	Programme Code	Programme Title	Programme Coordinator	From	To
1	PS73B	Effective Teaching	Habiba Hussain	06/01/2025	10/01/2025
2	CU148C	Power Electronics and Electric Drives	Soumitra Kumar Mandal	06/01/2025	10/01/2025
3	CU151C	Mathematical Foundation of Computer Science	Samir Roy & Kinsuk Giri	06/01/2025	17/01/2025
4	PS74A	Advanced Pedagogy	Sukanta Kumar Naskar	13/01/2025	24/01/2025
5	PS75B	Thinking Classroom and Life-long Learning	Urmila Kar	06/01/2025	10/01/2025
6	PS79CA	NBA Accreditation and SAR Preparation	Ranjan Dasgupta	13/01/2025	17/01/2025
7	PS76C	NBA Accreditation and SAR Preparation	Arpan Kumar Mondal	13/01/2025	17/01/2025
8	PS77A	Advanced Pedagogy	Arpan Kumar Mondal	13/01/2025	24/01/2025
9	MGT05C	Instructional Planning	Dipankar Bose	20/01/2025	24/01/2025
10	PS81C	NBA Accreditation and SAR Preparation	Ranjan Dasgupta	20/01/2025	24/01/2025
11	CU188C	Data Analysis with MATLAB	Nirmal Kumar Mandal	20/01/2025	24/01/2025
12	CU201C	Refresher course in Advanced Manufacturing Technology	Arpan Kumar Mondal	20/01/2025	31/01/2025
13	PS79C	Assessment, Evaluation And Development Of Question	Sagarika Pal	20/01/2025	24/01/2025

Sl. No.	Programme Code	Programme Title	Programme Coordinator	From	To
		Bank			
14	PS80B	Institutional Assessment and Autonomy	Urmila Kar	20/01/2025	24/01/2025
15	PS78C	Research Methodology	Rayapati Subbarao	27/01/2025	31/01/2025
16	CU204C	Engineering Drawing using AutoCAD	Mithu Dey	27/01/2025	31/01/2025
17	CU159C	Fundamentals of Image Editing and 2D Animation	Indrajit Saha	27/01/2025	31/01/2025
18	CU198C	Power Electronics and Its Industrial Application	Gayadhar Panda	27/01/2025	31/01/2025
19	PS98C	Development of Laboratory Instruction and Manual	Subrata Mondal	27/01/2025	31/01/2025
20	CU161A	Laboratory Experimentation – Drinking Water Quality Parameter & Community Health	Sailendra Nath Mandal	27/01/2025	31/01/2025
21	PS90C	Innovations in Human Resources: Strategies for Success	Deepak Mehra	27/01/2025	31/01/2025
22	PS82B	Teaching Methodology	Habiba Hussain	03/02/2025	07/02/2025
23	CU209C	Civil Engineering Principles and Practices	Kunwar R. Singh	03/02/2025	07/02/2025
24	CU183C	VLSI Design	Niladri Pratap Maity	03/02/2025	07/02/2025
25	PS101C	Introduction to Problem Based Learning	Arpan Kumar Mondal, Indrajit Saha, Kinsuk Giri, Sagarika Pal	03/02/2025	07/02/2025
26	CU162C	Fundamental of Power Electronics and Electric vehicles	Soumitra Kumar Mandal	03/02/2025	07/02/2025
27	CU158B	Artificial Intelligence with Engineering Applications	Chandan Chakraborty	10/02/2025	14/02/2025
28	CU167C	Renewable Energy and Energy Management Systems	Soumitra Kumar Mandal	10/02/2025	14/02/2025
29	PS84C	Induction Training	Dr. Subrata Mondal	10/02/2025	21/02/2025
30	PS85C	Assessment, Evaluation and Development of question bank	Sagarika Pal	10/02/2025	14/02/2025
31	SPL22C	Sustainable and Eco-friendly Materials for Product Design	Deepak Mehra	10/02/2025	14/02/2025
32	CU171C	PYTHON Programming	Kinsuk Giri	17/02/2025	21/02/2025
33	MGT12C	Managerial approaches in problem solving nd decision making	Sukanta Kumar Naskar	17/02/2025	21/02/2025
34	PS67C	NBA and SAR preparation	Rayapati Subbarao	17/02/2025	21/02/2025
35	PS86A	Research Methodology	Habiba Hussain	24/02/2025	28/02/2025
36	PS102C	Fundamentals of Problem Based Learning	Arpan Kumar Mondal, Indrajit Saha, Kinsuk Giri, Sagarika Pal	24/02/2025	28/02/2025
37	CU67C	PLC Programming & Applications	Sagarika Pal	24/02/2025	28/02/2025
38	CU175C	Environment, Climate Change and Health	Sailendra Nath Mandal	24/02/2025	28/02/2025
39	CU211C	Additive Manufacturing of Polymers for Biomedical Applications	Subrata Mondal	24/02/2025	28/02/2025
40	PS87B	Research Ethics and Publication Procedure	Niladri Pratap Maity	24/02/2025	28/02/2025
41	PS88B	Academic Leadership	Urmila Kar	24/02/2025	28/02/2025
42	CU180B	Applied Thermodynamics	Rayapati Subbarao	03/03/2025	07/03/2025
43	PS97C	Introduction to Indian Knowledge System (IKS)	Debi Prasad Mishra And Kinsuk Giri	03/03/2025	07/03/2025
44	PS100C	Entreprenureship Development	Dr. Subrata Mondal	03/03/2025	07/03/2025
45	PS95C	NBA Criteria and Document Preparation	Arpan Kumar Mondal	03/03/2025	07/03/2025
46	MGT14C	Institutional Management	Sukanta Kumar Naskar	03/03/2025	07/03/2025
47	CU134C	Cyber Security	Rajeev Chatterjee	10/03/2025	14-03-202r5
48	CU182B	Machine Learning with Python	Kinsuk Giri & Chandan Chakrabarty	17/03/2025	21/03/2025
49	CU185A	Fundamental of Power Electronics and Electric vechiles	Soumitra Kumar Mandal	17/03/2025	21/03/2025
50	MGT13C	Managerial Approcahes In Problem Solving And Decision Making	Sukanta Kumar Naskar	17/03/2025	21/03/2025
51	PS91B	Universal Human Values and Ethics	Urmila Kar	17/03/2025	21/03/2025
52	CU205C	CMOS Design	Niladri Pratap Maity	17/03/2025	21/03/2025
53	CU190C	Ergonomics & Product Design: Bridging Usability and Innovation	Deepak Mehra	24/03/2025	28/03/2025
54	CU192C	R Programming	Kinsuk Giri	24/03/2025	28/03/2025
55	PS94C	ICT, AI tools and Digital Pedagogy for teaching learning	Arpan Kumar Mondal	24/03/2025	28/03/2025
56	PS92B	NAAC Accreditation	Rayapati Subbarao	24/03/2025	28/03/2025
57	SPL24C	Enhanced SITU Method of Geo-Technical Testing	Naveen BP	10/03/2025	14/03/2025
58	SPL25C	Utilization of Instruction Media	Subrata Chattopadhyay	27/02/2025	01/03/2025
59	SPL (INH-Nagaland	ICT and AI Tools for Teaching and Learning	Naveen BP	24/03/2025	28/03/2025
60	SPL16C (BBSR)	Power Electronics Applications in Sustainable Energy & E-Transportation System	Gayadhar Panda	09/09/2024	13/09/2024
61	CU186B	Data Analysis with MATLAB	Nirmal Kumar Mandal	20/01/2025	24/01/2025
62	CU173B	Applied Machine Learning	Nirmal Kumar Mandal	24/02/2025	28/02/2025

Sl. No.	Programme Code	Programme Title	Programme Coordinator	From	To
63	CU168B	Sustainable Approaches to Metal Matrix Composites	Deepak Mehra	10/02/2025	14/02/2025
64	SPL (INH Rajgunj)	Institutional Management	Arpan Kumar Mondal And Sukanta Kumar Naskar	17/03/2025	28/03/2025
65	PS73B	Effective Teaching	Habiba Hussain	06/01/2025	10/01/2025
66	CU155C	Digital Manufacturing and Industry 5.0	Deepak Mehra	13/01/2025	17/01/2025
67	PS79C	Assessment, Evaluation And Development Of Question Bank	Sagarika Pal	20/01/2025	24/01/2025
68	SPL (INH SIT)	NBA Accreditation and SAR preparation	Rayapati Subbarao	17/03/2025	21/03/2025
69	SPL-Student	Communication Skill Development	Habiba Hussain	02/04/2025	04/04/2025
70	CU04C	Refreshers course on Structural Dynamics	Mithu Dey	07/04/2025	11/04/2025
71	CU05C	Waste to Energy: A sustainable Approach	Naveen BP	07/04/2025	11/04/2025
72	CU07C	Integrated waste management System	Kunwar R Singh	07/04/2025	11/04/2025
73	PS05A	Advanced Pedagogy	Arpan Kumar Mondal and Sukanta Kumar Naskar	07/04/2025	18/04/2025
74	SPL (inhouse)	Bloom's Taxonomy and Comprehensive Learning Process	Habiba Hussain	09/04/2025	11/04/2025
75	PS06B	Mentorship	Sukanta Kumar Naskar	14/04/2025	18/04/2025
76	PS07C	ICT Tools for Teaching Learning and Assessment	Kinsuk Giri	16/04/2025	18/04/2025
77	CU11C	Industrial Control System	Subrata Chattopadhyay	21/04/2025	25/04/2025
78	CU12C	Engineering Drawing using AutoCAD	Mithu Dey	21/04/2025	25/04/2025
79	PS08C	Research Ethics and Publication Procedure	Niladri Pratap Maity	21/04/2025	25/04/2025
80	CU16C	Environmental Risk Management	Kunwar R Singh and Anil Kumar	21/04/2025	25/04/2025
81	CU17C	Sustainable Quality Management	Deepak Mehra	21/04/2025	25/04/2025
82	SPL (inhouse)	NAAC Binary Accreditation	Rayapati Subbarao	21/04/2025	23/04/2025

Details of Workshop/ Seminar/ Conference

1. Industry Academia Conclave conducted on February 2025 for the participants from North Eastern State at NITTTR Kolkata Guwahati Extension Centre
2. One day National seminar (online) on Lightning Risk Prevention and Mitigation for Resilient India (LRPMR 2025) conducted on 27th February 2025
3. One day National Workshop on Nature-Centric Solutions for Vikshit Bharat, conducted on 22/03/2025 in Online Mode and 11 nos. of participants have attended the same
4. NSGEET25- conducted at Guw Extn centre from 16/01/2025 to 17/01/2025, coordinated by Dr. Gayadhar panda
5. 1st International Conference on Energy, Environment, and Green Technology (ICEEGT 2025) organized by the Department of Electrical Engineering, NITTTR Kolkata.

Lectures delivered by Prof. Debi Prasad Mishra, Director, NITTTR Kolkata

INVITED LECTURES

1. Chief Speaker on 'Karma Yoga: A Boon for leading Modern Life' at Siva Shakti Ashram, Cuttack on 5th January, 2025

2. Chief Speaker on "Bharatiya Indigenous Traditional Knowledge and Science" at Youth Conclave and Exhibition organized by Department of Education, Revenshaw University and Bharatiya Paramparik Gyan Vigyan Samaj, on 6th January, 2025.

3. Guest of Honour in inauguration ceremony of "REC CHAPTER of Bharatiya Paramparik Gyan Vigyan Samaj" at Raajdhani Engineering College, Bhubaneswar, on 6th January, 2025.

4. Chief Guest at the 75th Annual Conference on Science Popularization Society, Cuttack and delivered lecture on "Saga of Science and Spirituality" on 6th January, 2025.

5. On the occasion of 18th Prabhasi Bharatiya Divas in Bhubaneswar on 7th of January, 2025, a unique book namely 'GLORIOUS ODISHA' edited by Prof. Debi Prasad Mishra, Hon'ble Director, NITTTR Kolkata and Dilip Raj Behera, Suresh Kumar Sahoo and Tapan Kumar Behera was released by Shri Mohan Majhi, the Chief Minister of Odisha, Sajjan Sharma and other dignitaries on the aegis of Biswa Odia Parivar.

6. Guest of Honour in Vivek Mela 2025, Kolkata and lecture on "Importance of Swami Vivekananda Teachings for Modern Youth" on 11th January, 2025.

7. Key Speaker of a special webinar organized by IGNOU, Regional Centre, Kolkata on topic "Travelling towards success in startup: Dynamism from Bhagwat Gita", on 13th January, 2025.

8. Delivering a Lecture on 'Introduction to Grand Anicut' at Odisha University of Technology and Research, Bhubaneswar on 22nd January, 2025.

9. Met with Shri S.J. Samartha Verma, IAS, Director, Technical Education & Training in a meeting at office of Vice Chairman, SCTE & VT, Odisha, Bhubaneswar on 24th January, 2025.
10. Delivering Lecture on "Role of Students and Intellectuals in preserving Indian Science, Language, Culture and Heritage" at Sanskriti Conclave organized by Central Institute of Technology, Kokrajhar on 1st and 2nd March, 2025.
11. Distinguished Special Guest at the 38th IGNOU convocation ceremony at 12:00 p.m. on 05.03.2025.
12. Delivering Lecture on 'Stress Relief Through Yoga' at Hindi Teacher Training Institute, Cuttack, Odisha on 12th March, 2025.
13. Panelist of the Plenary Session on " Establishment Of Education Hub in NER for South East Asia" at Industry-Tech-Acad-Conclave (ITAC-2025) hosted by NIT Agartala and IIIT Agartala on theme of "Fostering Collaborations: Networking of INIs for Industrial Growth & Academic Excellence in North East India, towards Viksit Bharat@2047" on 18th March, 2025.
14. Chairperson of the Panel Discussion on "Networking of Organisations for enhancing the employability and Higher Study Opportunities for Students of INIs of NER in India and Abroad" at Industry-Tech-Acad-Conclave (ITAC-2025) hosted by NIT Agartala and IIIT Agartala on theme of "Fostering Collaborations: Networking of INIs for Industrial Growth & Academic Excellence in North East India, towards Viksit Bharat@2047" on 20th March, 2025.
15. Chief Guest in the inaugural Session and delivering lecture as invited speaker on "Empowerment of Indian Engineering Education in line with NEP 2020" at one-week Faculty Development Programme on NEP 2020: Potential and opportunities in Engineering Education (NEP 2020 POEE) – 2025 organized by Department of Chemical Engineering (NBA Accredited) at Haldia Institute of Technology on 24th March, 2025.
16. Guest of Honour at JIS Tech 2025 (An approach to solve live societal and industrial problems) organized by JIS College of Engineering Kalyani on 26th March, 2025.
17. Delivering an invited lecture on one-day National Seminar on "NEP-2020 in Engineering Education: Prospects and Challenges" at NIAMT, Ranchi. on 28th March, 2025.

18. Delivering speech on "Integration of Indian Knowledge System in Higher Education" at webinar on "Integration of Indian Knowledge System in Higher Education: Pedagogical Challenges" organized by Indira Miri School of Education, Krishna Kanta Handiqui State Open University, Assam in collaboration with Department of Education, Kumar Bhaskar Varma Sanskrit and Ancient Studies University, Assam on 1st of April, 2025.
19. Delivering Lecture as Chief Speaker on "Indian Culture and Its Importance" at the Annual Cultural Function 'Anugoonj 2k25' at GCE, Kalahandi on 16th April, 2025.
20. Delivering Lecture on 'The importance of Nishkam Karma in improving work culture' at IGNOU, Kolkata on 22nd April, 2025.

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21. Delivering lecture on **"Impact of E-Mobility with Green Energy on Environmental Sustainability"** in National Seminar on "Green Energy, Environment and Technology" (Towards the Sustainable Future), organized by NITTTR Kolkata at Guwahati Extension Center on 16th January, 2025.
22. Delivering speech on **"Power Electronics Applications in Sustainable Energy & e-transportation Systems"** in National Seminar on "Green Energy, Environment and Technology" (Towards the Sustainable Future), organized by NITTTR Kolkata at Guwahati Extension Center on 16th January, 2025.

23. Delivering Lecture on **"Lightning prevention and resilience strategies for a safer future"** at national seminar on "Lightning Risk Prevention and Mitigation for a Resilient India (LRPMR2025) organized by NITTTR Kolkata on 27th February, 2025.
24. Delivering Lecture on **"Ancient Indian Technology"** at IIT Bombay's Dharmawiki Sankranti Lecture Series 2025 on Indian Knowledge Systems on 1st March, 2025.
25. Inaugurating FDP on Introduction to Indian Knowledge System (IKS) and delivering lecture on **'Introduction to IKS'** at FDP organized by NITTTR Kolkata, on 03rd of March, 2025.
26. Delivering lecture on **'Ancient Indian Art and Architecture'** at FDP on Introduction to Indian Knowledge System (IKS) organized by NITTTR Kolkata, on 04th of March, 2025.
27. Delivering lecture on **'Agricultural Knowledge'** at FDP on Introduction to Indian Knowledge System (IKS) organized by NITTTR Kolkata, on 06th of March, 2025.
28. Delivering Lecture as a Keynote speaker on **"Green Energy and E-Mobility: A Pathway to a Cleaner Future"** at 1st International Conference on Energy, Environment, and Green Technology (ICEEGT 2025) organized by the Department of Electrical Engineering, NITTTR Kolkata on 3rd April, 2025.

Publications

JOURNAL

- Subhajit Chattopadhyay, **Subrata Mondal** and **Debi Prasad Mishra**, Morphology and Properties of Aluminium Alloy Matrix Hybrid Nanocomposites Reinforced with Nano-SiC and Eggshell Particles, **Journal of Materials Engineering and Performance**, Feb 2025, https://doi.org/10.1007/s11665-025-10813-6, **SCI Impact Factor 2.2**.
- **Niladri Pratap Maity et. al.,** "A novel adiabatic logic technique for low-power circuit applications," ***Microsystem Technologies (Springer),*** vol. 31, pp. 611-630, 2025, https://doi.org/10.1007/s00542-024-05842-5
- **Niladri Pratap Maity et. al., "**Enhanced capacitance modeling of a circular microelectromechanical system based transducer for sensitivity improvement", ***Microsystem Technologies (Springer),*** published on 31st March, 2025, https://doi.org/10.1007/s00542-025-05864-7
- **Niladri Pratap Maity et. al.,** "Improved EEG-Based Epileptic Seizure Classification Using Fusion of Machine Learning Model with Statistical Feature Integration", ***IEEE CCIS (IEEE Xplore)***, published on 26th March 2025, https://doi.org/10.1109/CCIS63231.2024.10931966
- Rashmi Mukherjee, Anushri Ghosh, **Chandan Chakraborty**, Jayanta Narayan De and Debi Prasad Mishra, Rice leaf disease identification and classification using machine learning techniques: A comprehensive review: Engineering Applications of Artificial Intelligence (IF-7.5), Elsevier, Volume 139, Part B, January 2025.
- S. Nandkeolyar, P. K. Ray, P. S. Puhan, **G. Panda** and R. Panda, "A Machine Learning-Based Hybrid Deep Neural Network Approach for Adaptive Demand Side Management Using Community-Level Battery Storage Systems," in *IEEE Transactions on Industry Applications*, doi: 10.1109/TIA.2025.3567409.
- C. J. Jena, P. K. Ray, **G. Panda** and S. Nandkeolyar, "Power Quality Enhancement and Power Management of PV-HESS Based Grid-Tied Microgrid Using Model Predictive Control Approach", in *IEEE Transactions on Industry Applications*, vol. 61, no. 2, pp. 3424-3434, March-April 2025, doi: 10.1109/TIA.2024.3523876.
- Prasad Panda, K., Kumar Dalai, S., Prasad Panda, A., T Naayagi, R. and **Panda, G.** (2025), Self-Regulated Capacitors-Based Extendable Reduced Switch Y-Type Multilevel Inverter. Int J Circ Theor Appl. https://doi.org/10.1002/cta.4584
- Verma, M. and **Singh, K.R.**, 2025. A statistical approach to examine the utilization of bamboo and jute fiber in the sustainable development of concrete. Innovative Infrastructure Solutions, In Innovative Infrastructure Solutions. Volume 10, Issue 4. Published online: March 2025, 10(4), pp.1-11.
- Rawat, S., Singh, **K.R. and Singh**, J., 2025. Synthesis of iron nanoparticles using iron recovered from rust: An application for the catalytic degradation of phenols. Environmental Science and Pollution Research, In Environmental Science and Pollution Research. Accepted: 11 February 2025. DOI: https://doi.org/10.1007/s11356-025-36114-y, pp.1-15.
- "Lung CT Image Segmentation with Optimal Parameters Using UNET Architecture" by Barun Kr. Paul, Tuhin K. Biswas and **Kinsuk Giri**, IEEE Xplore, Big Data Analytics in Bioinformatics,Page: 01-06, doi: 10.1109/DABCon63472.2024.10919399, 2025.
- **Rayapati Subbarao**, Trisha Biswanghri and Sukanta Kumar Naskar, 'Selection of sample for ranking mechanism of technical institutes in India offering energy engineering and allied programs', 94, 1st International Conference on Energy, Environment, and Green Technology (ICEEGT 2025), NITTTR Kolkata, April 2025.

CONFERENCE:

- M. Kumar, A. Singh, K. P. Panda, R. Thakur and **G. Panda**, "High Gain DC-DC Converter Fed PMSM Drive With Field-Oriented Control Techniques for Fuel Cell-Based Electric Vehicles," 2024 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Mangalore, India, 2025.
- M. Kumar, S. Borgohain, K. P. Panda, S. Thokchom and **G. Panda**, "Smart Solar Forecasting: Machine Learning Approaches for Predicting Solar Power," *TENCON 2024 - 2024 IEEE Region 10 Conference (TENCON)*, Singapore, Singapore, 2025.
- A. Bhoi, R. K. Mallick, P. Nayak, S. Mishra, **G. Panda** and A. Gantyat, "Optimal Harmonic Estimation in Renewable Integrated Power System Using Grasshopper Optimisation Algorithm and Recursive Least Square Approach," TENCON 2024 - 2024 IEEE Region 10 Conference (TENCON), Singapore, Singapore, 2025.
- M. J. Abudin, S. Thokchom and **G. Panda**, "Data Interpolation for Mitigating False Data Injection Attacks in Smart Grids," TENCON 2024 - 2024 IEEE Region 10 Conference (TENCON), Singapore, Singapore, 2024.
- S. K. Dalai, K. P. Panda and **G. Panda**, "Three-Phase Switched-Capacitor Common-Grounded Multilevel Inverter for EV Application," 2024 IEEE Industrial Electronics and Applications Conference (IEACon), Kuala Lumpur, Malaysia, 2024.

Edited Book by Prof. Debi Prasad Mishra:

- Prof (Dr.) Debi Prasad Mishra, Dilip Raj Behera, Suresh Ku. Sahoo and Tapan Kumar Behera, Glorious Odisha, Biswa Odia Pariwar, First Edition 2025

Activities of Learning Resource Centre

Activities of LRC during 1st January- 30th April, 2025 are jotted below

i. List of educational resources developed/video coverage during the period

a) MOOC- NATS video – 03nos
b) MOOC-DRRM video recording – 12nos
c) Educational Video Film -- 12nos

ii. Photo coverage of the events during 1st January - 30th April, 2025

During the above-mentioned period following Seventeen (17) events were covered:

a) Inauguration of NITTTR, Kolkata Ordinance
b) Observation of 61st Foundation Day of NITTTR, Kolkata on 11th January 2025
c) Inauguration of Soft Skill Lab on 11th January 2025
d) Observing Netaji Subash Chandra Bose Birthday on 23rd January 2025
e) Observing 76th Republic Day of India on 26.01.2025
f) Inauguration of Adi Shankaracharya , BKS Museum on 26.01.2025
g) A talk on “Current Development in Additive Manufacturing with in the Aerospace Sector” on 27.1.2025
h) Invited talk on “IC Engine Phase out for Carbon Neutrality” on 7.2.2025
i) Inauguration of the Automated Library & e-Learning Resource Centre and Launching of Library Portal on 26.2.2025.
j) Inauguration of the STTP’s on IKS on March 03 2025
k) Special Address by Hon’ble PM : Webinar on Centre of Excellence of AI for Education” on 5.3.2025
l) “Nature Centric solution for Vikahit Bharat” on 22.3.2025
m) 1st International Conference on Energy, Environment and Green Technology (ICEEGT-2025) on April 3&4 2025
n) Cultural exchange program between the students of Ravenshaw University Cuttack & NITTTR, Kolkata on 8.4.2025
o) Celebration of Baba Saheb Ambedkar Jayanti on 14.04.2025
p) Sanskrit speaking Classes during April 21-25, 2025
q) MoU signing between NITTTR,Kolkata & Dr. Fixit on 23.04.2025

iii) Any other news item worth publishing.

Beside this, during this period, hybrid mode 137 M Tech classes (each of 1Hr duration) conducted on regular basis from two Smart –Classrooms of LRC.

Miscellaneous

National Seminar

1. Program Co-Chair - National Seminar On "Green Energy, Environment and Technology" (Towards

the Sustainable Future) 16th-17th January 2025 (NSGEET-2025)

2. Member of Panel Discussion in National Seminar On "Green Energy, Environment and Technology" (Towards the Sustainable Future) 16th-17th January 2025 (NSGEET-2025)
3. Session chair - in National Seminar On "Green Energy, Environment and Technology" (Towards the Sustainable Future) 16th-17th January 2025 (NSGEET-2025)

Paper Presented in National Seminar NSGEET-2025

1. Implications of Construction and Demolition Waste Management in India
   Authors: Supria Saha, Subhadip Pahari, Abhijit Maity', Dr. Kunwar Raghvendra Singh
2. The Hazards of Air Pollutions in Industry
   Authors: Dr. Kunwar Raghvendra Sing, Saptarshi Das, Diganta Mallik, Aniket Mukhergee
3. Green building: An overview of Evaluation, Cost-effectiveness and Operational Strategies for Sustainable Development
   Authors: Chitrita Barman, Debanjali Hazra, Rahul Deo Barman, Kunwar Raghvendra Singh
4. Overcoming Barriers to Green Transformation in the Indian Cement Industry: Insights from MCDM Analysis
   Authors: Deep Chatterjee', Satyam Roy, Madhubanti Sarkar, Dr. Kunwar Raghvendra Singh

International Conference

5. Dr. Kunwar Raghvendra Singh served as a Member of the Technical Programme Committee – 1st International Conference on Energy, Environment, and Green Technology (ICEEGT 2025), organized by the Department of Electrical Engineering, NITTTR Kolkata.
6. Dr. Kunwar Raghvendra Singh chaied a session during the 1st International Conference on Energy, Environment, and Green Technology (ICEEGT 2025), organized by the Department of Electrical Engineering, NITTTR Kolkata.
7. Dr. Kunwar Raghvendra Singh served as a Member of Panel Discussion in 1st International Conference on Energy, Environment, and Green Technology (ICEEGT 2025), organized by the Department of Electrical Engineering, NITTTR Kolkata.

Patent Granted

- **Niladri Pratap Maity (Inventor) "**An Ultra-Low Power VLSI Circuit Design Technique", **Indian Patent No. 564217,** Granted on 28.03.2025.
- **Patent** on 'Specialized fixture for enhanced precision and stability in Friction Stir Welding operations' along, **Dr. R. Subbarao**, Sayon Dey of Brainware University, Kolkata. Application No.202531034319 A – Awarded on 18th April 2025.

Special Programs (STTPs):

1. **"Introduction to Indian Knowledge System",** Coordinators: Dr. Kinsuk Giri and Prof . Debi Prasad Mishra, Special STTP conducted on Indian Knowledge System, March 3-7, 2025, NITTTR Kolkata

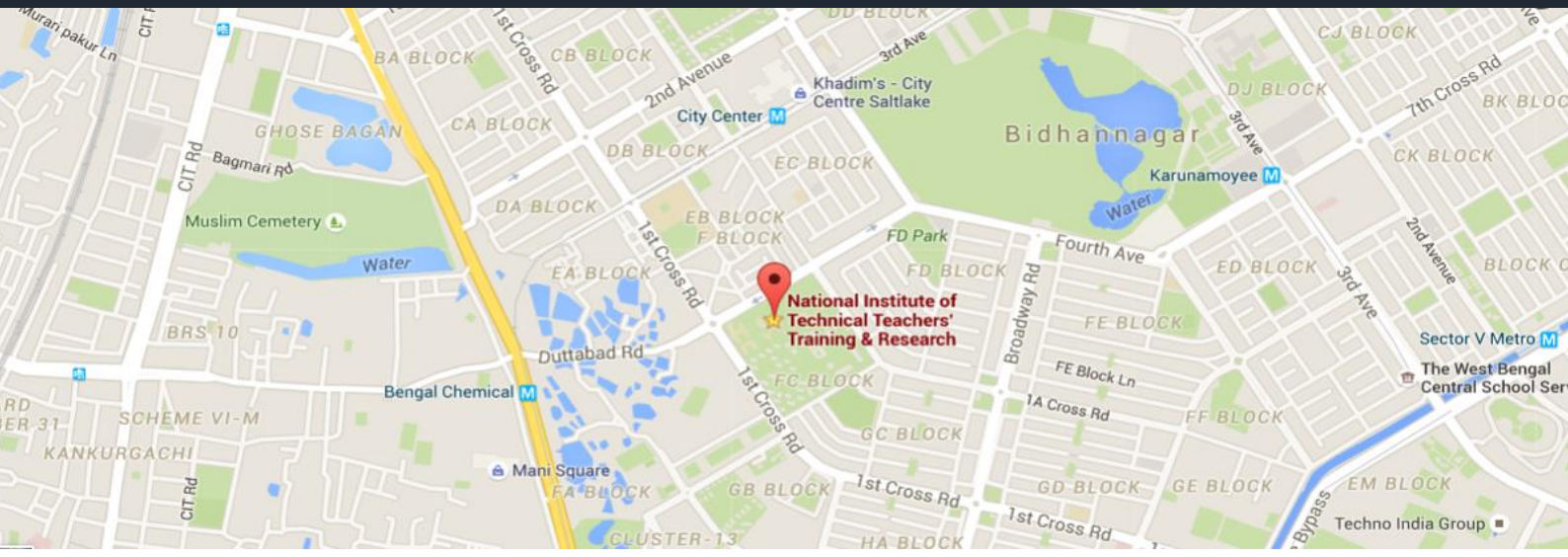
Others:

Dr. Rayapati Subbarao participated and presented a paper in the '1st International Conference on Energy, Environment, and Green Technology (ICEEGT 2025)', conducted by NITTTR Kolkata, from 3rd to 4th April 2025.

NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH, KOLKATA
Block-FC, Sector-III, Salt Lake City, Kolkata-700106
Phone: +91-33-66251900, Email: ds@nitttrkol.ac.in
Visit us at www.nitttrkol.ac.in

"The aim of university education should be to turn out true servants of the people who will live and die for the country's freedom"

- Mahatma Gandhi



Distance:

- From Howrah Railway Station: **42 min** (8.1 km) via Maniktala Main Road
- From Sealdah Station: **26 min** (7.4 km) via Beliaghata Main Road and Broadway Road
- From Kolkata Railway Station: **16 min** (4.8 km) via Canal Circular Road
- From Shalimar Station: **38 min** (18.8 km) via Parama Island Flyover
- From Netaji Subhas Chandra Bose International Airport: **27 min** (11.5 km) via Kazi Nazrul Islam Sarani/VIP Road

Google map link: https://goo.gl/maps/F7gssJoeqxSvffqf9

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