MADAN BHANDARI UNIVERSITY OF SCIENCE AND TECHNOLOGY

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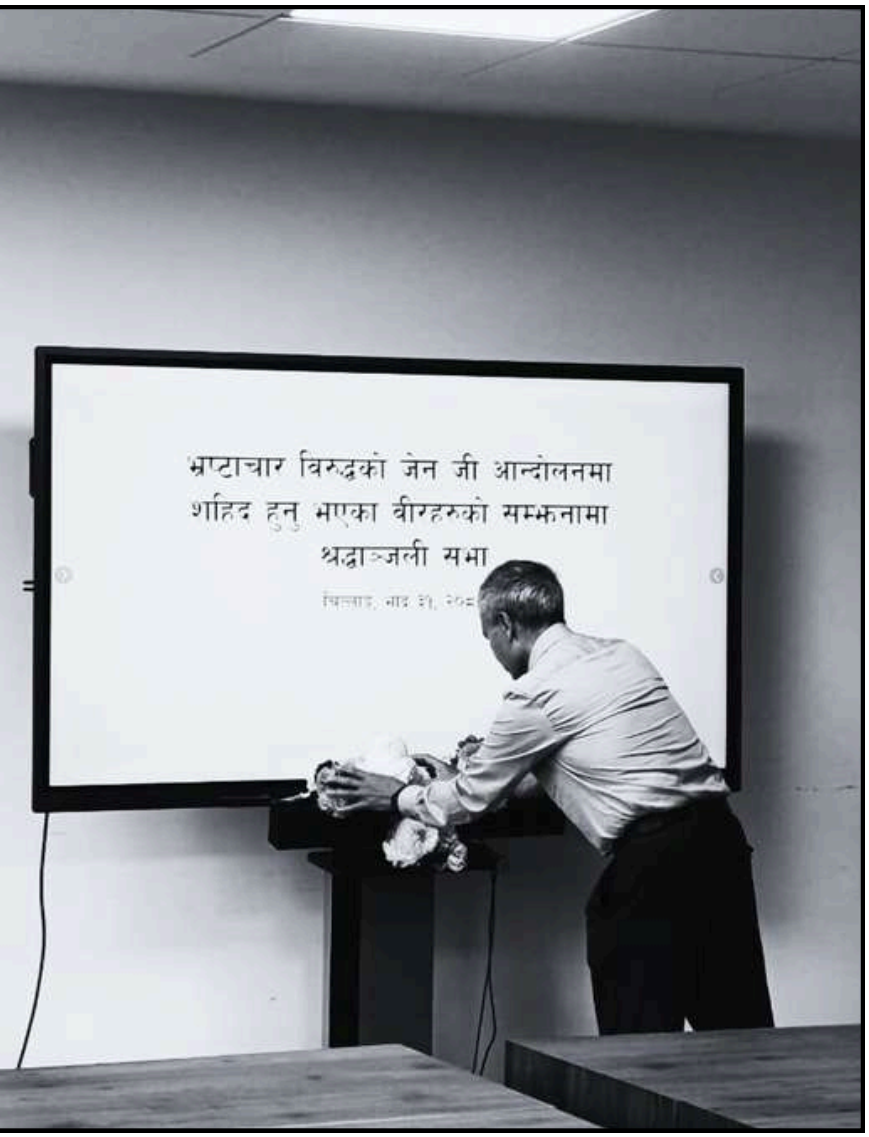
WELCOME TO OUR

# MBUST Insights

**Contributors of this Newsletter Issue:**
Dr. Sabina Shrestha, Dr. Ritu Raj Lamsal, and Students




*The President pays tribute, placing a flower in memory of the souls lost in the anti-corruption movement.*

## HONORING SACRIFICE

On September 16, 2025, the University conducted a tribute ceremony to honor the courageous martyrs who gave their lives during the anti-corruption movement. The initiative, led by the University President, highlighted the importance of integrity, transparency, and accountability as guiding principles for the institution.

## PLANTING HOPE

MBUST Plants Trees, Nurtures Future

## LET'S STAND AGAINST ALL FORMS OF CORRUPTION TOGETHER

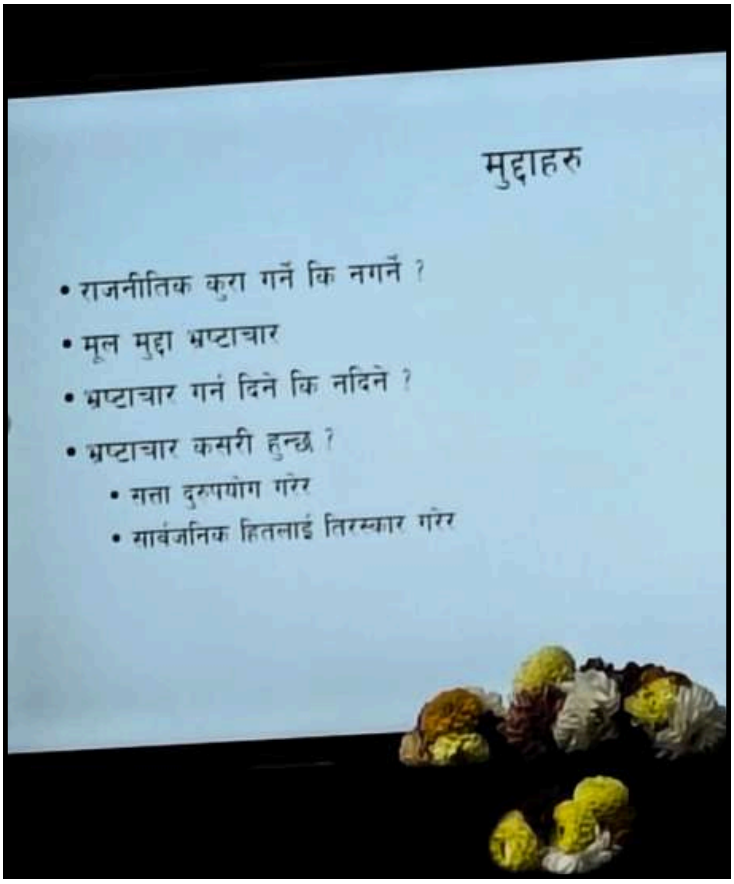
# Honoring Sacrifice

## Continuing the Fight Against Corruption

*By Saugat R.C., Binita Silwal, Nilakntha Regmi, and Srijana Dangi*

The ceremony commenced with a poignant moment of reflection for those who gave their lives in the quest for a society free from corruption. The President commended the university community for maintaining a strict standard of zero corruption and intolerance towards misconduct, highlighting that this dedication has led to the development of state-of-the-art buildings, the establishment of modern laboratories, and the creation of a vibrant academic environment.

The President further stressed the significance of interdisciplinary knowledge, asserting that the arts, humanities, and social sciences are just as crucial as science and engineering in shaping the nation's future. Collaborative initiatives among these sectors inspire innovation, creativity, and new forms of understanding, all of which are vital for sustainable development and societal advancement.





*Glimpses of the tribute*

The event concluded with shraddhanjali and heartfelt tributes to the heroes of the anti-corruption movement. While a nationwide holiday was declared to honor their sacrifice, the President emphasized that genuine progress stems from dedication and responsibility. In this spirit, the university chose to remain open the following day, showcasing its commitment to accountability, excellence, and a brighter future.

# Planting Hope

## MBUST Plants Trees, Nurtures Future

*By Srijana Dangi and Dr. Sabina Shrestha*

On September 14, 2025, the Madan Bhandari University of Science and Technology (MBUST) community came together to celebrate our shared responsibility towards the environment through a meaningful tree plantation program.

With great enthusiasm, faculty members, students, and staff joined hands to plant saplings across the university campus. The species included Oriental Thuja (*Platycladus orientalis*) [Mayur Dhupi], Crape myrtle (*Lagerstroemia parviflora)* [Ashare phul], Camphor tree (*Cinnamomum camphora*) [Kapur], Cherry (*Prunus cerasoides*) [Paiyu], Garden camellia (*Camellia japonica*) [Chiniya gulaf], Chest Nut (*Castanea crenata*) [Japani Katus], Cockspur thorn (*Maclura cochichinensis*) [Rupasi] and Blue Jacaranda (*Jacaranda mimosifolia*) [Nilo siris], Himalayan Cedar (*Cedrus deodara*) [Devdar] each carrying its own ecological and cultural significance.

This initiative symbolized more than the planting of trees; it represented the nurturing of hope, harmony, and sustainability. Every sapling stands as a promise to our planet, a commitment to building a greener, healthier, and more resilient future.

***"Every tree we plant is a promise to the earth. Let these roots remind us that small steps today grow into lasting change for generations to come."***

We sincerely thank everyone who participated and made this event memorable. Such collective actions showcase the power of community and remind us that protecting nature is both a duty and a privilege.

Together, we look forward to watching these trees grow, flourish, and inspire the generations who will walk the grounds of MBUST in the years ahead.

*Glimpses of the Tree Plantation*

# MBUST AI Exchange

## The APGAINED+ Workshop on Generative AI

*By Dr. Ritu Raj Lamsal*

The APGAINED+ Workshop on Generative AI, held from 13th to 15th August 2024 at the Lao Plaza in Vientiane, Laos, was a dynamic and immersive event designed to deepen understanding and practical skills in Generative AI (Gen AI). Bringing together over 50 participants from six countries, the workshop fostered cross-cultural collaboration while exploring AI's fundamentals, ethical considerations, and real-world applications. Through interactive sessions, hands-on exercises, and team projects, attendees gained valuable insights into how AI can be leveraged responsibly and innovatively across various domains.



*Glimpses of the event*

# Smart Biodegradable Packaging

## Harnessing Native Biodiversity

*By Dr. Sabina Shrestha*

On 5th September, a seminar was conducted by Dr. Mahesh Kumar Joshi, Associate Professor at the Central Department of Chemistry, Tribhuvan University. The seminar focused on the cutting-edge topic of smart biodegradable packaging, emphasizing the use of locally sourced bioactive compounds. Dr. Joshi explained both the technical and social-industrial aspects of biodegradable and smart packaging. He highlighted ongoing research efforts in Nepal and importance of identifying valuable natural plants that can serve as sustainable sources for smart biodegradable packaging. The functionality of biodegradable packaging materials, which are designed to regulate moisture, oxygen, carbon dioxide, ethylene, and block UV light were highlighted. These features are crucial to slowing food degradation and extending shelf life. Beyond simply biodegrading safely, smart packaging must protect food from environmental and microbial threats. Dr. Joshi also introduced the concept of smart packaging, which can actively monitor food freshness, with indicator that changes color to signal spoilage, demonstrating the rise of active, intelligent, and connected packaging solutions. Despite the promising potential of these biomaterials, he pointed out commercialization challenges and the need for industrial collaboration.

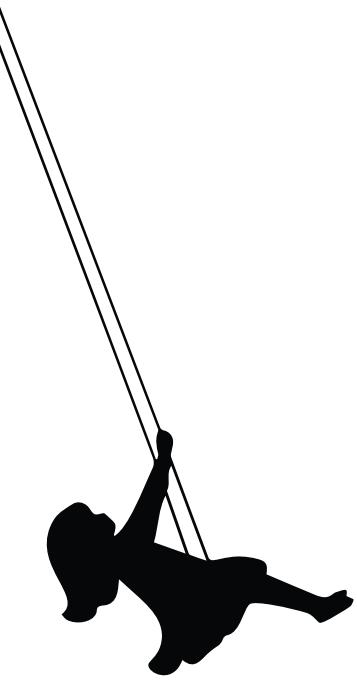
Addressing a significant global issue, Dr. Joshi reminded attendees that one-third of the world's food is wasted, resulting in major economic and environmental losses. With the food packaging market valued at $63 billion, innovative biodegradable and smart packaging solutions are urgently needed to mitigate this problem. Importantly, the seminar connected innovations to Nepal's rich biodiversity and use of plants such as rhododendron (*Rhododendron arboreum*) and barberry (*Berberis aristata*) with natural antimicrobial, antioxidant, and antifungal compounds. His research initiatives in Nepal have explored using nanocellulose from corn cobs combined with polymers and plant extracts to produce UV-blocking and antimicrobial films The seminar also discussed common technical challenges with biopolymer and need of research focuses on approaches like chemical cross-linking, nanocomposites, and optimized absorption techniques to improve film performance. The seminar was highly informative, providing a comprehensive insight into the promising future of smart biodegradable packaging grounded in local biodiversity and circular economy principles.

*Seminar by Dr. Mahesh Kumar Joshi*

# Happy Dashain

## 2082

Wishing you a joyful and harmonious Dashain filled with happiness, good health, and prosperity.



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