

WELCOME TO OUR

MBUST Insights

Contributors of this Newsletter Issue:

Dr. Sarbesh Das Dangol, Dr. Anupama Shrestha, Dr. Ritu Raj Lamsal, Dr. Kishor Tilmsina, Dr. Sabina Shrestha, Dr. Saurabha Bhattarai, and Students

FIRST MAS DEFENSES

By- Dr. Sarbesh Das Dangol and Dr. Anupama Shrestha

Madan Bhandari University of Science and Technology (MBUST) first cohort of Master of Applied Sciences students have successfully completed their thesis defense: Ms. Sabnam Subedi, who worked on the clubroot disease of cauliflower; Mr. Dhana Krishna Acharya, who investigated the feasibility of Community-Supported Agriculture (CSA) in Chitlang; and Mr. Sushil Rai, who performed kiwifruit grafting. Dr. Anupama Shrestha was the main supervisor of Sabnam. Dr. Anupama and Dr. Sabin Basi supervised Dhana, and Dr. Rameshwar Rai supervised Sushil. Congratulations to the students, their supervisors, thesis monitoring and examining committees, and the entire university team. Their commencement is scheduled on February 8, 2026.



From Top to Bottom: Thesis defense of Sabnam, Dhana and Sushil

Quick Stories



Prof. Dr. Dinesh Raj Bhuju was appointed Vice President (Academics and Research) of Madan Bhandari University of Science & Technology on January 15, 2026. He met faculty, staff, and students, discussed academic priorities, and outlined his vision for research and institutional development.

• ★ • ★ • ★ • ★ • ★ • ★ •



A training session on climate-resilient & organic agriculture for community impact was delivered by Dr. Anupama Shrestha, organized by Next Leaders Initiative for Sustainability (Nelis) and One Million Leaders Asia (OMLAS).

• ★ • ★ • ★ • ★ • ★ • ★ •



Mr. Greg Klemm, Deputy Head of the Australian Embassy in Nepal, visited the MBUST campus in Chitlang. Mr. Klemm toured various laboratories and interacted with faculty members and students. He expressed keen interest in MBUST's academic and research activities and conveyed his eagerness to support the university's initiatives. On the occasion, President Rajendra Dhoj Joshi highlighted the significance of MBUST in Nepal's research and higher education landscape.

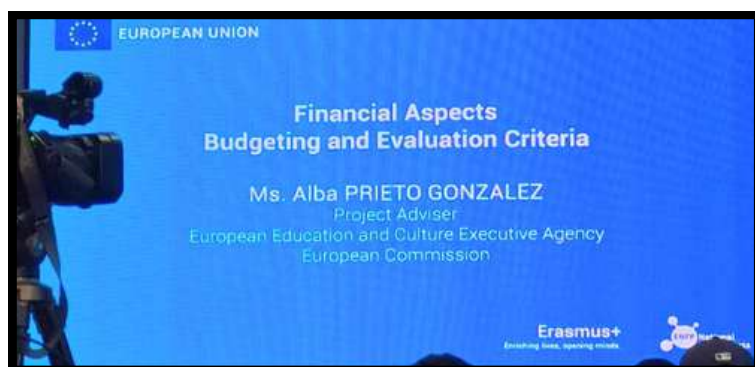
• ★ • ★ • ★ • ★ • ★ • ★ •

Capacity Building ERASMUS+ Training

Organized by UGC and supported by the European Union

By-Dr. Sarbesh Das Dangol

An Erasmus+ training program was jointly organized by the University Grants Commission (UGC), Nepal, and the European Union Erasmus+ team, in the presence of the Chairperson of UGC Nepal, Prof. Dr. Dev Raj Adhikari, and the Ambassador of the European Union (EU) to Nepal, H.E. Veronique Lorenzo. The MBUST representatives, Dr. Kirti Kusum Joshi and Dr. Sarbesh Das Dangol, participated in the event, along with other representatives from higher education institutions in Nepal. The first meeting was held on January 12, 2026, at Kathmandu University School of Management (KUSOM), Balkumari, Lalitpur, and the second training session was held on January 22, 2026, at the University Grants Commission, Sanothimi, Bhaktapur.



Some moments from the Erasmus+ training held at UGC-Nepal, Sanothimi, Bhaktapur

The first meeting on January 12 started with welcome speeches by the UGC chair and the EU Ambassador to Nepal, followed by an "Introduction to the Erasmus+ program and Capacity Building in Higher Education (CBHE)" by Dr. Jenny L. Elmaco, Key Academic Expert, Centralised Support to the Network of ENFPs European Commission. Another talk from Prof. Dr. Rabindra Bista from Kathmandu University was focused on "International Credit Mobility", followed by Dr. Syed Kashif Jehan, an Erasmus+ National Focal Point (ENFP) for Pakistan, on "Erasmus Mundus Action: Joint Masters & Design Measures- EMJM & EMDM". A talk on "Jean Monnet Actions" was delivered by Dr. Marc Chia-Ching Cheng, an Executive Director of the European Union Centre in Taiwan, and Erasmus+ National Focal Point (ENFP) for Taiwan. "Erasmus Mundus Join Masters for Nepali students" information was given by Mr. Apar Wasti, and the closing remarks were delivered by Mr. Dul Raj Chimariya, Deputy Director of UGC, who is also an Erasmus+ Auxiliary National Focal Point for Nepal.

On the second training session day (January 22), UGC Secretary Prof. Dr. Gyan Bahadur Thapa delivered the welcome speech, followed by "Introduction to Erasmus+ Project Proposal Structure & Writing a Strong Erasmus+ Project Proposal" by Dr. Jenny. The "Financial Aspects and Budgeting and Evaluation Criteria" was covered by Ms. Alba Prieto Gonzalez, Project Adviser at the European Education and Culture Executive Agency, European Commission. A talk was then jointly delivered by Prof. Dr. Kishan Datta Bhatta and Mr. Ramesh Shrestha, from Far Western University, on "Capacity Building in Higher Education (CBHE): Best Practices Sharing", followed by Associate Professor Buddhi Raj Joshi from Pokhara University on "International Credit Mobility (ICM)". The closing remarks were delivered by the UGC deputy director.



Strengthening Nepal's STI Framework

National indicators, integrated databases, & policy reform

By-Dr. Sarbesh Das Dangol

The Federal Ministry of Education, Science and Technology (MoEST) invited Dr. Sarbesh Das Dangol on January 23, 2026, to represent MBUST to discuss the Science, Technology and Innovation (STI) Annual Report Update and Publication Committee. The committee was attended by other representatives from MoEST, Kathmandu University (KU), Nepal Agricultural Research Council (NARC), Nepal Academy of Science and Technology (NAST), Nepal Health Research Council (NHRC), University Grants Commission (UGC), and the United Nations Educational, Scientific and Cultural Organization (UNESCO)-Nepal team, chaired by Mr. Shailesh Kumar Jha (Joint Secretary at MoEST).

Dr. Sarbesh highlighted the need to develop comprehensive research profiles of Nepali researchers working both within the country and abroad, and to integrate this with NAST's existing "Who's Who" database. Since the universities of Nepal already submit quarterly research activity reports to UGC, Dr. Sarbesh highlighted that such datasets should be jointly integrated across institutions. Dr. Sarbesh also emphasized the importance of capturing individual scientist-level data such as h-index, publications in Q1 and Q2 journals, research fields, and measurable outcomes, rather than relying solely on aggregate institutional numbers. Moreover, the creation of a searchable database showing the list of available equipment, their location, leadpersons managing them, with up-to-date contact details, regularly maintained by respective institutions, would be useful. This listing will help researchers across Nepal contact each other and form collaborations to access the instruments whenever required by a research team. Additionally, he mentioned the inclusion of university global ranking, university h-index indicators, alumni placement records, university impact metrics, management of their incubation centers, thesis-to-industry conversion rates, research outcomes, as well as the grant provider and outcome information.

The KU representative suggested that the committee should first clearly define the scope of the STI indicator before finalizing the data framework. The UNESCO representative noted that UNESCO is also collaborating with MoEST on Nepal's STI report. The UGC Director emphasized that UGC is a major stakeholder and that data compilation should be coordinated among UGC, NAST, and NHRC with support from all institutions. The MoEST team is now formally mandated to develop national STI guidelines, and there was broad consensus on establishing an accessible, integrated national database for science, technology, and education indicators under MoEST. The MoEST highlighted the improvement of national and institutional ranking, as well as those reflected by the World Intellectual Property Organization (WIPO).

Furthermore, the incorporation of private-sector research and innovation activity, their investments and activities, and making STI data systems no longer manual and document-based, but real-time analytics, is crucial. Also, indicators of how smoothly the procurement process is going on in the purchase of STI instruments, chemicals, and consumables, as well as customs clearance data is key to STI indicator documentation. This data will help us in policy drafting of the STI procurement process in Nepal in collaboration with the Finance Ministry. The indicators of the actual price of instruments, chemicals, and consumables, and the after price after procurement and receipt of goods, will also help us in tax regulation, corruption control, and transparency.



Mapping MBUST from the Sky

High-resolution UAV survey in collaboration with TU Berlin

By-Dr. Ritu Raj lamsal



Survey Data

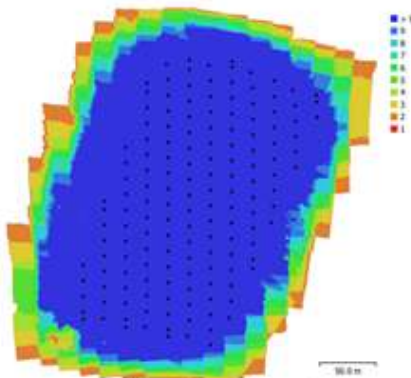
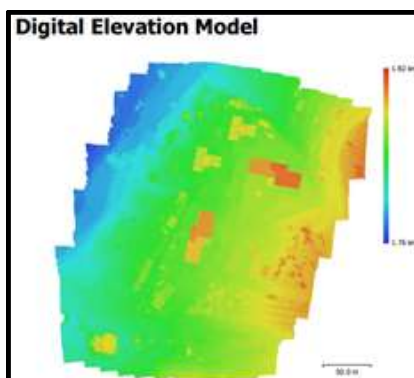


Fig. 1. Camera locations and image overlap.

A comprehensive UAV survey was successfully conducted over the forested hillside and campus of Madan Bhandari University of Science and Technology, Chitlang Campus, Nepal, on October 16-17, 2025. Utilizing a DJI Mini 2 flown at 70-80 meters above ground level under optimal cloudless and low-wind conditions, the mission employed a terrain-following grid pattern with 80% image overlap to ensure robust data capture. The collected imagery was processed using advanced photogrammetric software, primarily Agisoft Metashape Professional 2.2.1, on a high-performance computing system equipped with an AMD EPYC 7763 64-core processor, 1 TB of RAM, and an NVIDIA RTX A6000 GPU. This formidable hardware enabled the efficient alignment of all 152 images, generating 85,316 tie points, and supported "High" quality processing stages for depth map and dense point cloud generation, which utilized over 6 GB of RAM. The photogrammetric workflow produced a highly detailed dataset, including a dense 3D point cloud of over 39 million points, a Digital Surface Model with a ground resolution of 5.45 centimeters per pixel, and a high-resolution RGB Ortho mosaic at an exceptional 2.73 centimeters per pixel, all accurately georeferenced to the WGS 84 / UTM zone 45N coordinate system (EPSG:32645). This precise and detailed geospatial baseline is invaluable for a wide range of applications, from campus infrastructure planning and environmental monitoring of the forested slopes to academic research in geomatics and ecology. The project stands as a model of international collaboration, led by Robert Jackisch in cooperation with Dr. Ritu Raj Lamsal and Dr. Rajib Subba of MBUST, and supported by seed funding from the Technical University of Berlin's partnership program for the Global South.



Fig. 2. Camera locations and image overlap.



More details can be found in:

<https://doi.org/10.5281/zenodo.17954127>



Nature-Based Solutions Conference

Advancing climate-resilient urban development in Nepal

By- Miss Binita Silwal and Mr. Mukesh Maharjan

The National Conference on Nature-Based Solutions was held on 6 January 2026 and was organized by the Government of Nepal, Ministry of Urban Development, in collaboration with the Cities 4 Women: Inclusive and Climate-Resilient Urbanization in Nepal project. The event brought together representatives from government agencies, development partners, academic institutions, practitioners, and the private sector.

Nepal is facing increasing challenges due to climate change, rapid urbanization, biodiversity loss, and the degradation of vital ecosystems. As climate-related risks continue to intensify, there is a growing need for integrated, sustainable, and scalable approaches that safeguard both communities and natural systems. Nature-based Solutions (NBS) provide a promising pathway by restoring and enhancing ecosystems while supporting climate resilience, biodiversity conservation, and sustainable urban development. Although national policies in Nepal recognize the importance of NBS, effective implementation, scaling, and coordination across sectors and different levels of government remain key gaps.

Against this backdrop, the National Conference on Nature-Based Solutions was organized to bring together government agencies, development partners, academic institutions, practitioners, and the private sector. The conference served as a platform to share policies, practical experiences, and research evidence on NBS, and to collectively identify future directions for strengthening their application in Nepal.



Left: PhD scholar Mukesh Maharjan presenting his poster at the conference.



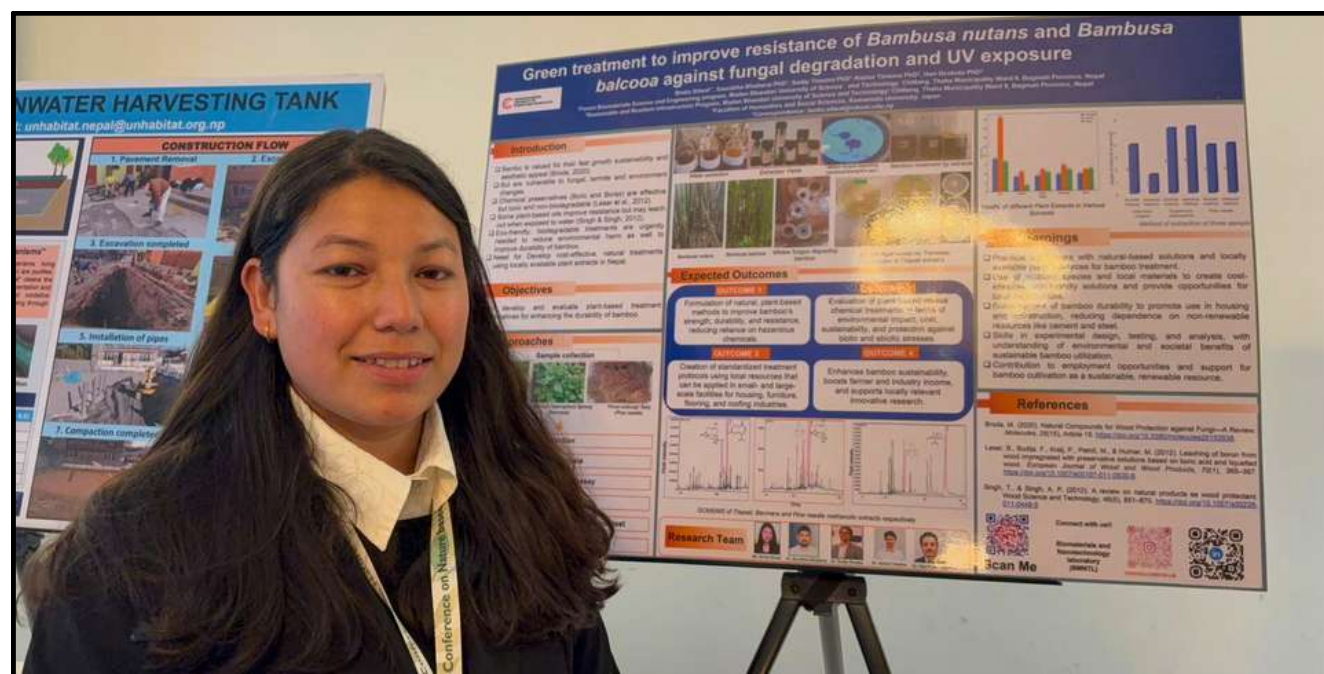
Right: MBUST representatives attending the conference.

(Continued on Page 6)



Representatives from Madan Bhandari University of Science and Technology, including Dr. Kishor Timsina, Dr. Sudip Pandey, Mr. Mukesh Maharjan, and Ms. Binita Silwal, participated in the conference. Dr. Kishor Timsina delivered a presentation highlighting the mainstreaming of bamboo as a structural construction material. In addition, Mr. Mukesh Maharjan and Ms. Binita Silwal presented poster presentations focusing on bamboo as a structural solution and the use of green treatment approaches to enhance bamboo durability.

A key takeaway from the conference was the growing role of innovation and locally available natural resources in addressing urbanization challenges in Nepal. Discussions emphasized the importance of integrating scientific research with policy and practice, particularly in promoting sustainable construction materials such as bamboo and advancing nature-based solutions for resilient and inclusive urban development.



Top: Moments from the conference with fellow participants
Bottom: Miss Binita Silwal presenting her research poster at the conference



Advancing Bamboo-Based Sustainable Construction

MBUST and Habitat for Humanity Nepal Sign MoU

By- Dr. Kishor Timsina

Madan Bhandari University of Science and Technology (MBUST) and Habitat for Humanity Nepal (Habitat Nepal) signed a Memorandum of Understanding (MoU) on 26 January 2026 at the Habitat for Humanity Nepal office in Dhobighat, Lalitpur, to strengthen collaboration in research and development of green and sustainable construction technologies, with a particular focus on bamboo-based materials and systems. The MoU was signed by Professor Rajendra Dhoj Joshi, President of MBUST, and Ms. Eliza Sthapit, National Director of Habitat for Humanity Nepal, and witnessed by Dr. Kishor Timsina, Assistant Professor and Coordinator of the Sustainable and Resilient Infrastructure Program at MBUST, and Mr. Anshu Kumar Pal from Habitat for Humanity Nepal. Through this partnership, the two institutions will collaborate on research and innovation in bamboo-based construction, including bamboo treatment, testing, and development of construction technologies, field-based studies, pilot applications, knowledge dissemination, and strengthening of the bamboo value chain for sustainable housing in Nepal. The collaboration reflects a shared commitment to promoting locally available, low-carbon, and climate-resilient construction solutions for affordable housing and sustainable development in Nepal, with the MoU remaining valid for a period of five years.



MBUST and Habitat for Humanity Nepal sign MoU



MBUST Research Highlights at the Conference

2nd OCEM International Conference 2026 on Sustainable and Green Technologies

By- Dr. Kishor Timsina and Dr. Saurabha Bhattarai

The 2nd OCEM International Conference on “Innovations for a Sustainable Future: Advancing Green Technologies and Multidisciplinary Research Trends”, held on 9th–10th January 2026 at Oxford College of Engineering and Management (OCEM), Gairdakot, successfully brought together academicians, researchers, and professionals to discuss emerging research and innovations for sustainable development.

In this conference, Dr. Kishor Timsina participated as a Keynote Speaker, presenting MBUST’s research experience on Sustainable and Resilient Infrastructure, highlighting ongoing efforts in resilience-oriented infrastructure research, sustainability principles, and innovative approaches relevant to Nepal’s context. Additionally, Dr. Saurabha Bhattarai was invited as a Guest Speaker, where he presented on the ongoing research at MBUST on green bio-based treatment of bamboo, emphasizing environmentally friendly material technologies and their potential application in sustainable construction. The conference served as an important platform for sharing multidisciplinary research trends and strengthening academic collaboration toward a more sustainable future.



Glimpses of the conference with speakers Dr. Saurabha and Dr. Kishor Timsina



Graduates: Qualities and Skills

Expectations of Academics and Research Vice-President from
Graduates and Faculty

By- Dr. Sabina Shrestha

On January 26, 2026, newly appointed MBUST Academic and Research Vice-President Dr. Dinesh Raj Bhujū—NAST academician, Northwest University (Xi'an) visiting professor, and 42-year education veteran—was welcomed by Dr. Kirti Kusum Joshi, Director of the Institute of Applied Sciences, for his inaugural lecture: "Graduates: Qualities and Skills."

Dr. Bhujū expressed that everyone is special and he has high expectations to lead not only within Nepal but also beyond. Dr. Bhujū mentioned life is a marathon, not a short sprint; one must keep walking. Special people run like marathon athletes.

Time during the learning phase is like interest in your life, which accumulates. He further discussed the philosophy of life and gave an example that each day counts among the 1640 days he has as vice-president of MBUST. He also discussed symbol and metaphor and gave an example of how a jar can have rocks, pebbles, sand, and water incorporated as that of life, and also emphasized that water is life. Rock is the foundation made by high school, pebbles as bachelor level studies, which bind rocks, and master's is like a sand component, finally water combines them all. Data are like rocks, pebbles are compartmentalization, sand is knowledge, and finally leads to wisdom.

He discussed that the etymology of "graduate" means taking degrees and stepping forward. It is climbing step by step and becoming familiar with oneself. He also described why stories and interpreting information are crucial. Each student gathers raw data, compartmentalizes it into information, utilizes information for wisdom, converts it to knowledge, and transfers it for societal change—creating or dismantling theories and creating laws.



Director of the Institute of Applied Sciences, Dr. Kirti Kusum Joshi, introducing Dr. Dinesh Raj Bhujū for his lecture "Graduates: Qualities and Skills"

(Continued on Page 10)



He highlighted that information is discussed more, whereas wisdom is little discussed, which can be obtained with rigorous exercise of the brain, which takes time. Wisdom is the highest level of learning. He also remained a slogan, “a graduate in each home and engineer in each ward,” he had propounded, is necessary to build a nation. He further highlighted that globally, 25.5 million people hold master’s degrees, whereas 4.5 million have PhDs; thus, master’s and PhD holders are special. One should strive for the highest possible degree, and there is a requirement of strong perseverance. He also made the audience familiar with UNESCO’s 9 stages of education and life skills. Dr. Bhuju emphasized the expected skills from bachelor’s, master and PhD graduates as follows:

A graduate with a bachelor’s degree should have a foundation of critical thinking, written and oral communication skills, research and analysis basics, time management and organization, collaborative work skills, and collaboration and broad problem-solving abilities.

Master graduates should have advanced analytical skills, specialized technical expertise, leadership and management skills, independent research proficiency, strategic thinking abilities, and professional network development. If not acquired, they need to achieve it.

PhD graduates should have analytical and research skills, project management and organization, communication skills, self-management and leadership, iterative thinking and creativity, and ethical and professional conduct.

He further stressed that curiosity out of interest is necessary, and creative thinking and analysis are harder said than done. We need to solve problems with critical thinking. He concluded with the remark that diligence and hard work are key to success, and one should have perseverance and self-discipline for success.



Vice President Dr. Dinesh Raj Bhuju on expectation from graduates and degrees and key skills

Functional Bio-Nano Materials

Nature-Inspired Bio-Nanotechnology

By- Dr. Sabina Shrestha

On January 16, 2026, the lecture "Functionalized Biomaterials for Separation and Purification Technology," spotlighting biomaterials' transformative role in research, was delivered by Dr. Bhoj Raj Poudel, Assistant Professor, Department of Chemistry, Tri-Chandra Multiple Campus, Tribhuvan University. Further, "Research in Nanomaterials and Safety Measures for Laboratory Work" was presented by Dr. Surendra Kumar Gautam, Associate Professor, Department of Chemistry, Tri-Chandra Multiple Campus, Tribhuvan University, Nepal. These dynamic lectures highlighted the integration of cutting-edge technology with essential laboratory safety protocols.



Top: Dr. Bhoj Raj Poudel, Assistant Professor, Department of Chemistry, Tri-Chandra Multiple Campus, Tribhuvan University, Nepal, delivering a lecture

Bottom: Dr. Surendra Kumar Gautam, Associate Professor, Department of Chemistry, Tri-Chandra Multiple Campus, Tribhuvan University, Nepal delivering lecture



The President,
Madan Bhandari University of Science & Technology,

cordially invites you to grace the
First Commencement Ceremony

to be chaired by
Mr. Padma Jyoti
Chairperson, Board of Trustees

Chief Guest
Dr. Jamil Salmi
Global Tertiary Education Expert

Commencement **CEREMONY**

CLASS OF 2023

Date: February 8, 2026 (Magh 25, 2082),
Sunday; Time: 10:30 AM



**MADAN BHANDARI
UNIVERSITY OF
SCIENCE AND TECHNOLOGY**

Venue: Chitlang, Thaha Municipality- 9

TRANSPORTATION ARRANGEMENT Invitees opting to travel to Chitlang by university vehicles are kindly requested to confirm not later than February 5, 2026, to Ms. Rabina Shrestha: 9846662219. The buses are scheduled to leave at 8:30 AM sharp from the **Center for Energy Studies, Pulchowk Campus.**



Editorial Team

Patron: Prof. Dr. Rajendra Dhoj Joshi

Advisors: Prof. Dr. Dinesh Raj Bhuj, Assoc. Prof. Padma Sunder Joshi,
Prof. Dr. Sanjay Nath Khanal, and Dr. Kirti Kusum Joshi

Editor-In-Chief: Dr. Sarbesh Das Dangol

Associate Editors: Dr. Bhushan Shrestha, Dr. Sabina Shrestha, Dr. Rajib Subba, and
Dr. Kishor Timsina

Section Editors: Dr. Sabina Shrestha, Dr. Bhushan Shrestha, Dr. Anupama Shrestha,
Dr. Ritu Raj Lamsal, and Mr. Saugat R.C.

Any Questions?

info@mbust.edu.np

9840088016, 9849848053

Chitlang, Thaha Municipality-9,
Makawanpur,
Bagmati Province, Nepal

www.mbust.edu.np

Support MBUST for a Prosperous and Just Nepal!

Join our campaign by donating to MBUST.

Please enter your name, email, and mobile in the remarks section.

Every Rupee or Dollar Counts!

Your support makes a difference!

We Accept



नेपाल राष्ट्र बैंकबाट अनुमति प्राप्त



MADAN BHANDARI UNIVERSITY OF SCIENCE AND
TECHNOLOGY
Terminal : 2222110007955326

Bank Branch : Teku Branch



Support number :
014443901
Email address :
card.business@sanimabank.com