VOLUME 13, ISSUE 1| JANUARY 2025

# Bits and Bytes

## CST Newsletter



## Building on Progress: A New Semester Begins

Welcome to the autumn edition (AS2024) of the College of Science and Technology's Newsletter, "Bits and Bytes". As we step into another exciting semester, we are pleased to share with you some of the recent developments and activities within our college. While we remain focused on our commitment to learning and growth, it is the dedication and hard work of our students, faculty, and staff that continue to make our community a special place. In this edition, we highlight a few moments of progress, collaboration, and inspiration.

We hope these stories resonate with you as we move forward in our shared mission to advance knowledge and foster a spirit of discovery.

In this newsletter you can expect:


- Community Updates
- Academic Highlights
- Celebrations
- Sports Events
- Partnerships
- Special Highlights


> "For the great doesn't happen through impulse alone, and is a succession of little things that are brought together."
> Vincent Van Gogh

## CST'S COMMITMENT TOWARDS A DRUG-FREE CAMPUS (JULY 17, 2024)






As part of the registration process, the college successfully conducted drug testing for all first-year students. This mandatory initiative is an important step in our ongoing commitment to maintaining a drug-free campus and ensuring the safety, and well-being of our entire academic community.

Following the successful implementation for first-year students, drug testing was extended to second, third, and final-year students, as well as all the faculty and staff members, ensuring that every member of our community shares the responsibility of upholding these crucial standards.

## LEADERSHIP WORKSHOP FOR STUDENT LEADERS (AUGUST 24, 2024)




A comprehensive capacity-building workshop on leadership was held for student councillors and club coordinators. The session was led by the Dean of Student Affairs, Mr. Leki Dorji, and Ms. Karma Kelzang Eudon. Key topics of the workshop included role modelling, administrative responsibilities, effective communication, and campus resource management.

Such workshops are essential for fostering strong and effective leadership within our student body, providing student leaders with the skills and insights needed to navigate challenges, inspire their peers, and contribute positively to the campus community.

**WORKSHOP ON EMOTIONAL INTELLIGENCE AND RESILIENCE**
**(August 15-17, 2024)**



A transformative three-day workshop for first-year students on "Emotional Intelligence and Resilience: Personal Transformation" was led by Lopen Lungten Gyatsho, President of the College of Language and Culture Studies (CLCS), with the goal of fostering personal growth, emotional awareness, and resilience among our students.

The importance of natural acceptance and the role of curiosity in leading a life that benefits both individuals and the world around them was emphasized throughout the workshop. The discussions also delved into the causes of happiness and suffering, highlighting their deep connection to mindset and emotional responses.

A key component of the workshop was the SBNRR method:

- S – Stop
- B – Breathe
- N – Notice
- R – Reflect
- R – Respond

This method empowered students to become more attuned to their emotions and better equipped to handle various life situations. The workshop concluded with an engaging Q&A session and a sharing session, where students reflected on their learnings and personal insights. The event provided them an opportunity to voice their experiences and take away valuable tools for emotional and mental well-being.

We hope they are able to apply these lessons to their daily lives and that they continue to support their personal growth.

## HIS MAJESTY'S CERTIFICATE FOR ACADEMIC TOPPERS OF 2023 (NOVEMBER 14, 2024)




The HM's Certificate Award Ceremony took place at Sonamgang Primary School on November 14, 2024. In recognition of their academic achievements, all 2023 academic toppers from the College of Science and Technology, schools across Chukha Dzongkhag, and Phuntsholing Thromde were awarded the prestigious Certificate of Academic Excellence, signed by His Majesty the King.

Among the distinguished recipients were 12 students from our college, each honored for their exemplary performance in their respective fields of study. This certificate symbolises their hard work, dedication, and exceptional academic performance throughout the year.




The ceremony was graced by the presence of the Honorable Dasho Dzongda of Chukha Dzongkhag, who presented the awards in front of a gathering that included officials from the Dzongkhag, the Thromde Education Officer, school principals, teachers, and parents.

In his address, the Honorable Dasho emphasized the importance of academic excellence, discipline, and service to the nation, while also sharing His Majesty's vision for the Gelephu Mindfulness City.

We hope that such recognitions inspire and motivate all students to strive for even greater achievements, encouraging them to work harder and reach their fullest potential.

## ECE/ICE STUDENTS DEVELOP SECONDARY PAYLOAD FOR IN-COUNTRY SATELLITE PROJECT (ICSP) IN COLLABORATION WITH GOVTECH




Team Jachung, a group of dedicated ECE and ICE students led by Kinley Dorji (4ECE), showcased the secondary payload they developed for the In-Country Satellite Project (ICSP).

This initiative is part of a collaboration with GovTech, the organization responsible for developing a 6U In-Country satellite.

The presentation not only highlighted the team's achievements but also served as a valuable opportunity for knowledge transfer, enabling junior students to build upon the work and continue developing the satellite payload.

Miss Pema Zangmo, ECE Programme Leader, also briefed the students on an exciting upcoming satellite development project in partnership with the Chiba Institute of Technology, Japan, and facilitated by GovTech. She highlighted the project's scope and the significant opportunities it presents for ECE students to engage in this high-impact international collaboration.

This event underscores the versatility and innovative spirit of the ECE Department, showcasing its commitment to pioneering projects and fostering global partnerships. A huge congratulations to the students and faculty for their relentless pursuit of excellence.



## CELEBRATING EXCELLENCE IN MECHANICAL ENGINEERING (JULY 31, 2024)




Three outstanding second-year Mechanical Engineering students have been recognized with awards and cash prizes from the esteemed Mrs. Shashi Kanta Memorial Foundation, India. Chetan Dorji, Sangay Tenzin, and Tshering Dorji were honored for their exceptional academic performance and dedication.

Professor Abhishek Agarwal, Dean of the Mechanical Engineering Department, expressed immense pride in the students' achievements. He also announced the formation of a new student chapter for the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), further enriching the academic opportunities for CST students.

The ongoing support from the Mrs. Shashi Kanta Memorial Foundation will undoubtedly inspire future generations of engineering students at CST, contributing significantly to the growth of the field and fostering excellence in engineering education.









The College's Literary Club hosted a declamation event on August 14, 2024, celebrating International Youth Day and showcasing students' oratory skills in shaping effective communication for the future



A Khadhar ceremony was held at the College of Science and Technology on September 4, 2024, to welcome the newly appointed Deans of Research and Industrial Linkages, Dr. Sangey Pasang, and Student Affairs, Kelzang Dorji.





On September 26, 2024, the College celebrated its 23rd Foundation Day, marking over two decades of growth and academic achievement. The event reflected on the college's journey from its beginnings to its current standing. The day was an opportunity to honour CST's commitment to excellence in education, research, and community engagement. It also emphasized the college's dedication to fostering a vibrant, inclusive, and collaborative campus environment, where diverse perspectives and ideas are celebrated.

On October 31, 2024, the College celebrated Diwali with vibrant performances, religious rituals, and a festive atmosphere, fostering unity and cultural inclusion within the college community.




Celebration of Vishwakarma Puja

## CELEBRATING DRUK TSHONGRIG GATOEN (DTG) AT CST (OCTOBER 28-29, 2024)



On Day 2 of the Druk Tshongrig Gatoen celebration, students showcased their innovative ideas at the Business Idea Competition, building on the skills developed during the Design Thinking Workshop on Day 1. Organized by the CST-Tech Incubation Centre, the event highlighted the entrepreneurial spirit and creativity of our students.

Seven teams presented their ideas, each one reflecting the creativity, passion, and entrepreneurial drive that is shaping the next generation of leaders.

Team Rise took first place with their idea, "Green-cycle Bhutan," which seeks to tackle food waste by converting it into a valuable resource, contributing to a cleaner and greener Bhutan.

Team Dr. Tech secured the runner-up position with their idea to connect skilled workers with those in need of services, empowering communities and promoting sustainable livelihoods.

This competition was more than just a platform for ideas; it emphasized the importance of fostering an entrepreneurial mindset that drives sustainable innovation and problem-solving. We extend our sincere gratitude to the Ministry of Industry, Commerce, and Employment for funding this initiative, which plays a crucial role in nurturing the entrepreneurial spirit of our students and preparing them for the challenges ahead.





Sports, ranging from football to basketball and volleyball, play an integral role in campus life alongside academics. During AS2024, multiple sports events were held, offering students a chance to compete and showcase their talents.



Beyond the thrill of competition, these tournaments served as a platform to emphasize the core values of sportsmanship, teamwork, and fair play —values that resonate far beyond the academic realm. The matches were a powerful reminder that sports are not just about winning or losing, but about building unity, fostering camaraderie, and strengthening the sense of community among students.

Ultimately, the lessons learned through sports—resilience, discipline, and respect —are just as important as the academic knowledge gained in the classroom.








**RUB and Musashino University Formalise Partnership with MoU Signing (November 12, 2024)**

The RUB and Musashino University (MU), Japan, signed a Memorandum of Understanding (MoU) on November 12, 2024, to enhance academic cooperation. The partnership focuses on collaboration between RUB's College of Science and Technology (CST) and MU. The MoU was signed by the Vice Chancellor of RUB and the President of MU at OVC.

**Grant Agreement with Bhutan Foundation**

A new grant agreement with the Bhutan Foundation is set to address key community challenges through technology and innovation. The partnership will focus on two projects: developing an AI-based Smart Animal Intrusion Detection System to protect farmers in Zhemgang from wildlife damage, and creating low-tech assistive devices for children with disabilities. These initiatives aim to foster innovation while promoting a more inclusive and sustainable future.






# Industrial Tours









The industrial tour is designed to give students valuable hands-on experience, offering them the opportunity to observe industry practices, emerging technologies, and work cultures firsthand. This initiative bridges the gap between classroom theory and real-world application across various sectors.

In AS2024, the DRIL office successfully organized 14 tours, covering more than 20 organizations and sites, including both government and private sectors. These tours provided students with the chance to interact with industry professionals, gain insights into the latest trends, and better understand the practical challenges and opportunities within different fields.

## Celebrating Bhutanese Dialects: Honouring the Power of Words and Education

Language diversity is a cornerstone of cultural identity, social cohesion, and mutual understanding. In Bhutan, where a rich tapestry of dialects exists, preserving these languages is essential to safeguarding the nation's cultural heritage. Each dialect encapsulates unique traditions, beliefs, and historical wisdom, and the loss of any one could mean the erosion of invaluable cultural elements.

Promoting language diversity strengthens inclusivity by allowing people from different linguistic backgrounds to connect and express themselves. Platforms that celebrate diverse
languages—such as videos—play a vital role in educating broader audiences, fostering respect for differences, and nurturing mutual understanding.

Beyond its cultural significance, linguistic diversity enhances cognitive and social skills. Research reveals that multilingual individuals demonstrate better problem-solving abilities and possess well-developed intercultural communication skills. By embracing linguistic diversity, communities can inspire creativity, inclusivity, and a stronger sense of identity.

In Bhutan's context, preserving dialects is a key element of sustainable community development. These languages carry invaluable knowledge about traditional practices, environmental stewardship, and social structures, ensuring that this wisdom is passed down to future generations.

To commemorate International Literacy Week (September 1–7, 2024), the College of Science and Technology celebrated Bhutanese dialects through a short video clip themed "Honour the Power of Words and Education." This creative initiative featured members of the Literacy Club presenting diverse Bhutanese languages, including Dzongkha, Tshangla-kha, Lhotsam-kha, Kurtoep-kha, Kheng-kha, Bumthap-kha, Zala-kha, and Chocha Ngacha, alongside Bhutan's second language, English.

The video not only celebrated the richness of Bhutan's linguistic heritage but also highlighted the importance of preserving and promoting these dialects. It served as a powerful reminder of the role language plays in fostering inclusivity, mutual understanding, and cultural pride.

The event reinforced the college's commitment to embracing diversity and ensuring that Bhutan's linguistic heritage remains vibrant and meaningful for generations to come.

Engineering students at the CST have consistently demonstrated innovative thinking not just in their technical pursuits, but also in cultural and social initiatives. Recognizing the importance of preserving Bhutan's linguistic diversity, many students actively participate in activities aimed at promoting and conserving languages.

Through their technical expertise, students and faculty at CST have contributed to the creation of digital resources and tools to document and preserve Bhutanese languages. One example is the development of interactive language-learning applications, such as Dzongkha NLP—a mobile application designed to translate Dzongkha into English. This innovative tool helps break down language barriers and fosters cross-cultural understanding, making the richness of Dzongkha accessible to a wider audience.

The Literacy Club's video presentation during International Literacy Week was another testament to the engineering students' commitment. Club members used their technical and creative skills to produce a high-quality video that effectively highlighted the richness of Bhutanese dialects. From scripting and filming to editing and dissemination, engineering students played a pivotal role in bringing this initiative to life.

These efforts reflect the unique blend of technical innovation and cultural preservation embraced by the College. By merging engineering knowledge with a deep respect for heritage, students are contributing meaningfully to Bhutan's sustainable development while fostering a strong sense of national identity.

Check out the video and explore more about the Literary Club's exciting activities on our Facebook page: "CST Literary Club – Where Words Come Alive!"

## InDesign Workshop for College Publication Committee and Faculty



The Office of the Dean, Research and Industrial Linkages hosted an InDesign workshop for members of the College Publication Committee and interested faculty on November 14–15, 2024. The primary objective of the training was to provide participants with the necessary skills to develop pamphlets for their respective departments, centres, and the college as a whole.

Effective communication is essential for organisations, colleges, and universities to disseminate information, promote events, and highlight their strengths to attract prospective students, faculty, and industry collaborations. Furthermore, it is critical to showcase key insights into academic programs, faculty expertise, research collaborations, career opportunities, consultancy work, and partnerships with external agencies.

A well-designed pamphlet serves as a powerful tool to communicate these strengths and achievements to a wider audience, particularly to prospective students who may be unfamiliar with specific fields, helping them make informed decisions about their academic journey.

These pamphlets will soon be available on the college website and will also be distributed to relevant industries, organisations, and individuals.











As we close this edition of the newsletter, we celebrate the achievements and initiatives that continue to shape our vibrant academic community. From exciting collaborations to hands-on learning opportunities, the College remains committed to fostering growth, innovation, and excellence.

As we look ahead to the new semester, we wish all our students, faculty, and staff a productive and fulfilling journey. May this semester bring new opportunities for learning, growth, and success. Let's continue to work together to make this a year of achievement and positive impact.

All the best to everyone for a successful semester ahead!

*Thank you for reading!*

## Exciting Highlights to Look Forward to in SS2025:

- Annual Joint Faculty Research Meet
- Annual Student Research Meet
- ICSciEnTec 2025
- CST Premier League
- Teachers' Day
- Campus Recruitment



# NEWSLETTER FOR AS2024
# (JULY-DECEMBER 2024)


## Faculty Contributors:

Pema Zangmo, Electronics and Communication Engineering Department.

Thinley Wangmo, Science and Humanities Department.

Tshering Cheki, Civil Engineering Department.

## Publication Manager:

Damcho Ngawang Choden

Office of the Dean, Research and Industrial Linkages