



Volume - VIII
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To mark the sacred occasion of Zhabdrung Kuchoe, the staff and students joined the nation to offer prayers and recite Jigten Wangchuk as annual program. The event was organized by Dewathang Jigten Wangchuk Tshogchhung and was presided by venerable Lam Kinley of Royal Bhutan Army, Dewathang. Hon'ble Secretary of National Land Commission Secretariat (NLCS), Dasho Pema Chewang.

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JNEC Campus Radio Goes on Air

The radio station titled 'JNEC Campus Radio' was inaugurated by Hon'ble Dasho Dzongda of Samdrup Jongkhar, Tharchin Lhendup, on 6th April, 2021.

The JNEC Campus FM 91.1 MHz is one of the communication centers in the college. The facility will benefit students in displaying their skills as radio spokespersons. The center will also serve as a medium to transmit information to the students, staff and communities on the happenings in the college.

For the academic year 2021, the declaration of results of student leaders' election was also broadcasted live on the radio. The students and staff were found keenly tuning to the radio through their smartphones for the results.

The station is also expected to help the community by engaging the community leaders and elders through discussions on various issues concerning Dewathang community for the benefit of everyone.

The campus radio was established with the funding of Nu. 834000 from the Department of Information Technology and Telecom, Ministry of Information and Communications, Royal Government of Bhutan.



Hon'ble Dasho Dzongda Tharchin Lhendup with Officiating President, Karma Drukpa



Hon'ble Dasho Dzongda being interviewed by RJ during the inaugural session.



Knowledge Sharing and Skills Transfer Initiative towards the Community Schools

Jigme Namgyel Engineering College in collaboration with Samtse College of Education executed the project titled “Transformation of STEM Education to IoT STEM AI: Reaching Emerging Technologies to Grassroots” funded by Royal University of Bhutan under Research Endowment Fund, 2020-2021.

The project was an initiative on sharing and transferring knowledge and skills on emerging technology namely automation, the Internet of Things (IoT), and Artificial Intelligence (AI). The initiative was to make the Science Technology Engineering Mathematics (STEM) education relevant to twenty-first-century education system by making the STEM subjects a daily language for learners. The project was an effort to study the potential of transforming STEM education by incorporating hands-on experiential learning based on modern emerging technologies using basic STEM educational platforms. The project was also a part of community service aimed at creating platform for collaboration between schools and tertiary institutions to exchange knowledge and skills and enhance teaching-learning practices.



Students of Dungsam Academy (left) and Garpawoong Middle Secondary School (right) attending the workshop

On 20th March and 22nd May 2021, the students of Dungsam Academy and Garpawoong Middle Secondary School under Dewathang community were introduced to developing basic automation, IoT, and AI applications using the STEMSEL (Science Technology Engineering Mathematics Social Enterprise Learning) inventor kit, runline technology. Students were introduced the basic concepts of IoT and AI by interfacing physical devices such as sensors, actuators, and output devices with the internet. Students realized that their creativity and imagination could be translated into real-time working applications. They witnessed that the automatic and remote control of peripheral

devices such as fans, motors, lamps were possible through internet in which STEMSEL is the intermediary controlling device.

From the feedback received from participants, it was evident that teaching-learning particularly of STEM subjects will be more effective if interactive modern STEM platforms/tools are used in teaching subjects like programming languages in schools.

Besides the workshops, the project could also connect with international STEM enthusiasts through regular international webinars.



Diploma in Electronics and Communication Engineering students with international participants on webinar/workshop on STEM technologies

STAFF UPDATE

NEW APPOINTMENT

Mr. Rigden Yoezer Tenzin, Associate Lecturer in Department of Civil Engineering and Surveying

Mr. Tashi Penjor, Assistant Lecturer in Department of Humanities and Management

Mr. Sonam Darjee, Laboratory Technician in Department of Electronics and Communication Engineering

Mr. Dorji Gyeltshen, Laboratory Technician in Department of Mechanical Engineering

RESIGNATION

Dr. Andu Dukpa, PhD, President

Mrs. Kezang Yuden, Assistant Lecturer in Department of Civil Engineering and Surveying

Mr. Sangay Phuntsho, Assistant Lecturer in Department of Civil Engineering and Surveying

JNEC Donates Electronic Substitution Board to Schools

The Center for Appropriate Technology (CAT), JNEC, donated 10 sets of electronic substitution boards that will be distributed among the schools in the Dzongkhag to facilitate the sports events.

During the symbolic handing-taking ceremony held on 10th April 2021, Dzongkhag Tshogdue Thrizin of Samdrup Jonhkgar, Leki Wangchuk, handed over these boards to Dy. Chief DEO, Pema Tshering, in presence of CAT members and few officials from nearby schools.

The electronic substitution boards were designed, fabricated and assembled by CAT, a research center focused on developing appropriate technologies to support and uplift the communities. The CAT has been



Handing-taking of the substitution board

instrumental since its inception in providing its technical expertise for local communities through active collaborations with Samdrup Jongkhar Initiative (SJI).

Learning by Doing in the Design of Highway Construction

Practical based learning has been one of the effective methods of bridging the gap of theoretical knowledge and practical skills while undergoing bachelors and diploma programme in the college. Students pursuing diploma programme in particular are given more emphasis on the practical components as the key element of the programme.

The students pursuing diploma in civil engineering undertake numerous practical oriented assignments to equip them with hands-on skill as they progress. For instance, students in second year were involved throughout the third semester of 2020-2021 academic year in the design of highway that includes soil testing, bitumen testing and field surveying. It is a part of Highway Engineering module, where students completed the surface coarse construction using the concept of Soil-Crete.

During the practical session, students collected construction waste materials such as aggregates and fine sand to determine their engineering properties. California Bearing Ratio of the site was computed to determine the thickness of base course in-line with Indian Road Congress (IRC).

Although students were not familiar to Soil-Crete for highway construction and related experimentation on construction materials, the application to meet the demand of sustainable development were realized through rigorous literature reviews.

During the entire project activities, students were exposed to different fields including soil and aggregate testing, manual work and traditional compaction. Besides experiencing CBR and Proctor test which are the key elements for highway engineering, traditional ways of compaction such as building a compacting rod from wood and compacting the pavement in traditional style was also experimented.

The planning and designing of the access road alignment at college campus was done with consistent effort from students. With such practical-based assignments the students were able to realized both theoretical and practical skills in the design and construction of highway

Such practical assignment are a part of skilled based learning that enables student to get hands-on experience of the theoretical concepts with a bit of research. The field assignment indeed enabled the students to experience the role of Highway Engineer.



Highway models built by Civil Engineering Students

Students of JNEC collaborates with the students of Aalto University, PBL Project

PBL South Asia aims to develop best practices in problem-based education as a joint initiative between ten universities from Finland, India, Nepal, Bhutan, Lithuania and the Netherlands.

JNEC has been implementing PBL methodology into the curriculum as a part of the European Union funded project titled 'Strengthening Problem Based Learning in South Asian Universities'.

A collaborative project targeted towards creating awareness on the landslide in Dewathang, Samdrup Jongkhar has been carried out from February to May, 2021 between the students of Aalto University, Finland and students of JNEC. Due to pandemic the project had to be carried out online. Several interactive online session were conducted to discuss the project between students and mentors. The mid review of the project was conducted on 31st March, 2021 where all the students of partnered universities implementing PBL presented their project.

After the mid review the students from both the country carried out intensive workshop



Students from Aalto University meet with JNEC students during their visit to Bhutan. (Photo by Studio Sajo)

for three days which was entirely student-led peer-to-peer activity. Mr. Harri Kämäräinen, Finland's Ambassador to South Asia opened the workshop with the presentation. The workshop helped students to interact and learn about each other.

As a part of the project, JNEC students visited

the landslide area within Dewathang and shared their experience and learning to the Aalto students.

The students from Aalto University made their final presentation on 26th May, 2021 through online platform and the invitation was extended to all the JNEC faculty.

Creative Business Idea video competition

April 2021 was definitely an exciting month for JNEC e-Club, as it organized a series of activities during the COVID-19 pandemic to showcase their talents and also to engage faculty, staff, and students. These activities were held to commemorate the Birth Anniversary of His Majesty the Fourth King Jigme Singye Wangchuck, and to promote innovation and creativity among the JNEC family.

Unlike in the past, on this occasion the club launched different activities to promote entrepreneurial culture among the faculties and students in the campus. The club identified three different thematic areas for the competition: ICT, Culture, and Energy and Environment. Participants were required to make videos of approximately 5-10 minutes based on the groundbreaking topic describing their business idea and its operational modality. Business ideas were only eligible if the proposal is as per the identified thematic area associated to COVID-19 innovation. Entrants to this competition were limited to demonstrate conceptual based ideas without needing to build prototypes/products. Competitors were given a period of one month to conceive the idea and

produce the video.

After the submission of videos by contestants via online platform, judges were given week long time for evaluation based on criteria provided. One of the criteria was on the number of 'views' and 'likes' received by each video uploaded on the JNEC Facebook page.

From the 21 entries, 5 best ideas were awarded cash prizes and certificates. Under ICT category, 'Mobile transportation app' and 'e-tender app'

video idea were the winners while under energy and environment category, 'biogas from food and animal waste' video idea was the winner. Similarly, under cultural and creative industry category, 'red rice marketing' video idea won. The competition was sponsored by Loden Foundation.

"The value of an idea lies in using it."

Thomas Edison -

To mark the birth anniversary of His Majesty the Fifth Druk Gyelpo, JNEC e-club would like to invite interested staff and student to participate in business idea pitching video competition. Before starting with your business plan it perfect to bring your innovation and creativity on your startup ideas based on the solution to social, cultural, environment related issues or based on the development of new products. The video will be evaluated by the judges based on the evaluation criteria and based on the likes by the viewers on JNEC e-club Facebook page. Attractive cash prize with certificate will be awarded to the top three winners of all the category.

Be Innovative, Get a start-up!

Timeline

The Competition starts from 21st February 2021. You can upload your video to JNEC e-club page From 21st February to 24th March. Deadline for submitting business ideas: 25 March 2021 at 1:00 pm at e-printing service. Evaluation & Selection processes of ideas: 26-30 March, 2021. Result Announcement and awards: 31st March, 2021 at 18:00

Participation

Our 'Creative Business Idea' Video Competition 2021 is open to all staff and students

Participants must come up with an innovative new business idea based around the theme of 'COVID-19 Innovations'. Business ideas must fall within the remit of 'COVID-19'.

Business ideas are only eligible if they fall within the category of COVID-19 innovations.

Participants do not have to have a prototype or product made/sold to take part in this competition – it is purely concept based and participants will be judged on the innovation of their idea.

Participants must make a short 5-minute video (maximum length) outlining what their business idea is and how it works. The video clip should be uploaded to the JNEC e-club Facebook Page and put on a 'public setting' for more likes and views. You are also asked to submit to the club secretary @ e-printing service on 25 March 2021 at 1:00 pm to 5:00

CREATIVE BUSINESS VIDEO COMPETITION

Registration

Registration open from 21st Feb, 2021 through online Google form

The video will be assessed 50 % by the judges and 50% by the viewers like and share. For further details you may Contact us at 17465271 or Visit us @ E-printing center.

Category	Prize
Know-how & Communication	1 st Nu 1500
	2 nd Nu 1000
	3 rd Nu 500
Engineering, Energy & Environment	1 st Nu 1500
	2 nd Nu 1000
	3 rd Nu 500
Cultural and creative industry	1 st Nu 1500
	2 nd Nu 1000
	3 rd Nu 500

Zorig Day: Festivity of Innovation

The College celebrated Zorig Day on 27th April with an engineering expo themed 'Geo-Environmental Engineering'. The day is celebrated across Bhutan with the fundamental objective of paying tribute to craftsmen, technicians and artists of both traditional and modern skills.

The engineering expo was intended to enhance the quality of education via innovation and self-learning. It successfully motivated and attracted many young innovators to present their ideas proving the advancement of technical knowledge and skills of the current era. Some of the projects and models presented in the expo included mechanically stabilized soil blocks using geo-grid, slope rehabilitations using environment friendly construction technique, soil stabilization using lime, and demonstration of soil liquefaction.

The innovation, zeal and excitement observed among the students while presenting and explaining their projects during the expo cannot be replaced by mere lectures in the classroom or few hours of practical lesson in an enclosed conventional lab.

The COVID protocols limited numbers of attendees constrained large gathering. However, the quality and the vastness of creativity involved in each project presented by the students were not affected.

The knowledge and creativity experienced from



Top: Lam Neten of Dewathang performing Lhabsang Thruessel during the Zorig Day.

Right: Students showcasing their ideas and innovations during the exhibition.



the expo will shape and equip the students with essential knowledge and skills to face technical hurdles in the future.

International Women's Day

This year's theme for the International Women's Day, "Women in leadership: Achieving an equal future in a COVID-19 world", celebrates the enormous contributions made by women and girls around the world in building an equal future and recovering from the COVID-19 epidemic.

On 8th March 2021, students led by JNEC Y-Peer club celebrated International Women's Day with enthusiasm and motivation. The female staff received a handmade women's day card from the students to encourage and motivate them on that day. Ms. Sonam Wangmo from the Department of Information Technology expressed that she was emotionally moved when the students, including even male members, were equally involved in making the day special for all the women at JNEC. She shared that she felt cheered, inspired and special for being a woman.

In the afternoon, a friendly football match was played between female staff and students with an all-female audience. The male staff and students restrained voluntarily from spectating the match to show their respect to women though they shared their urges to watch the match except music club members and match officials. Before the match, members of music club dedicated beautiful songs to all the women at JNEC and across the globe. Some students and staff shared that dedicated songs made them feel special and valued. As soon as the

match was over, all the spectators ran to the ground and sang the final song together with players. Finally the day ended with cake

cutting and everyone on the ground cheering loudly "Happy International Women's Day".



Cutting cake to celebrate the day after the match



Female staff and students of Department of Information Technology (DIT) raised their hand to support the International Women's Day 2021 challenge theme "choose to challenge and call out inequality"

Guest lecture on familiarizing on career path and opportunities

Department of Electronics and Communication Engineering organized a guest lecture titled, “Graduate Career Path and Opportunities in Bhutan” on 19th May, 2021. Mr. Dhendup Cheten, Chief Executive Officer from Fuzzy Automation Pvt. Limited, spoke on his career journey as Electronics and Communication Engineer in Bhutan Power Corporation Ltd. (BPCL), Businessperson, Senior Analyst (DRIVE Center at Druk Holding and Investments) and Tech Entrepreneur. The firm was established to engineer smart city projects (smart home, smart transportation, smart water services) and provides expert services in developing smart solutions based on emerging technologies.

He spoke on the career openings for Electronics and Communication Engineering in power sector companies in automation enabled by modern emerging technologies and his experiences in the field of the SCADA automation and involvement in engineering the



Students attending the guest lecture.

automation process in BPCL. He also shared his brief stretch as Senior Examiner in DRIVE Center, DHI, and related openings within the field of rising innovation started in DHI. He also ventured into the Tech Business in driving

Fluffy Automation.

Through the session, students were familiarized with openings for venturesome especially in the era of Fourth Mechanical Insurgency IR 4.0.

Recitation of Jigten Wangchuk to Mark Zhabdrung Kuchoe

To mark the sacred occasion of Zhabdrung Kuchoe, the staff and students joined the nation to offer prayers and recite Jigten Wangchuk as annual program. The event was organized by Dewathang Jigten Wangchuk Tshogchhung and was presided by venerable Lam Kinley of Royal Bhutan Army, Dewathang. Hon'ble Secretary of National Land Commission Secretariat (NLCS), Dasho Pema Chewang and few officials from NLCS also joined the 300+ students and staff in the recitation program.

During the opening of the ceremony, the Lam highlighted on the importance of paying homage to Zhabdrung Ngawang Namgyel, who first united Bhutan as a nation.



Devotees reciting 'Jigten Wangchuk' during the Zhabdrung Kuchoe.



JNEC Combats COVID-19 - A report by COVID-19 Safety Officer

The outbreak of coronavirus disease (COVID-19) in December 2019 have ragged and created havoc to the humanities around the globe. As of 9th June 2021, 3.75 million have lost their lives to the novel coronavirus. Bhutan has 1739 confirmed cases of which 314 are active cases while only one died as of 10th June 2021. Bhutan and its people are safeguarded from the virus under benevolent leadership of His Majesty accompanied by Lyonchen DASHO Lotay Tshering, the Prime Minister. His Majesty has been tirelessly touring every corner of the country to oversee the safety of his people. On 8th June 2021, His Majesty was on the royal tour to eastern dzongkhags to oversee measures against spread of virus after the detection of Covid cases in Tashigang.

The management of JNEC has been working hard to safeguard the staff and students from virus. The college management instituted JNEC-COVID-19 Task Force (JNEC-C19TF) in March 2020 after the first case of coronavirus in the country. The JNEC-C19TF had series of meetings where they discussed the matters ranging from academics to the logistics management of staff, their families and students during and after lockdown. The college sought advices from Eastern COVID-19 Coordination Office (ECCO) stationed inside the campus whenever there were issues related to the COVID-19 protocols. The JNEC-C19TF came up with following measures for the safety of the staff and students:

- Students are strictly prohibited to go outside the campus. Students and staff with medical case and other emergencies are sent outside the campus escorted by student service officer/staff. Staff are allowed to go outside the campus on coupon basis. They are provided with only 6 coupons in a month. No staff are allowed to go outside the campus without coupon.
- 5-6 staff are assigned as patrolling team from 8:00 PM until 12:00 AM on daily basis, even on weekends and National holidays.



A total of 489 students and staff received their second dose of Corona Virus vaccine during the mass vaccination program at Jigme Namgyel Engineering College on 25th July, 2021.

- Every hostel or academic structure and offices to have water barrel and washing soap.
- All staff and students have to mandatorily use face mask in the campus.

As per the directives of the National COVID-19 Task Force, 10% of staff and students of JNEC has to undergo for random COVID-19 tests on biweekly basis. As of 9th June 2021, 9th round of random tests were carried out for JNEC and all tested negative. Dewathang Military Hospital carried out Flu vaccination on 15th December, 2020, and the first round of COVID-19 vaccination for staff and students on 4th and 5th of April 2021 in the college MP hall. In view of the increasing number

of positive cases in the country, the college identified isolation and holding areas, as per the direction of Ministry of Health.



Druk trace and thermal scanning are made compulsory for anyone entering the campus.

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